

**SUBSURFACE GAS CONTINGENCY PLAN  
INVESTIGATION REPORT ADDENDUM**

**JULY 1998 VAPOR WELL  
INSTALLATION AND SAMPLING RESULTS  
WASTE DISPOSAL, INC. SUPERFUND SITE  
SANTA FE SPRINGS, CALIFORNIA**

**Prepared Under Contract DACW05-96-D-0008  
United States Army Corps of Engineers  
Sacramento District  
Sacramento, California**

**and for the**

**United States Environmental Protection Agency  
Region 9  
San Francisco, California**

**Prepared by:**

**CDM Federal Programs Corporation  
100 Pringle Avenue, Suite 500  
Walnut Creek, California**

**January 14, 1999**

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## **1.0 INTRODUCTION**

### **1.1 BACKGROUND ON 1997-1998 SUBSURFACE GAS INVESTIGATION**

During the summer of 1997, CDM Federal Programs Corporation (CDM Federal) implemented on the behalf of the U.S. Environmental Protection Agency (USEPA) the *Subsurface Gas Contingency Plan for the Waste Disposal, Inc. Superfund Site* (CDM Federal, July 1997). The results of the Contingency Plan investigation identified elevated concentrations of volatile organic compounds (VOCs) and methane that exceeded interim soil gas threshold levels established for the Waste Disposal, Inc. (WDI) by USEPA. In accordance with the decision criteria provided in the Contingency Plan, during the 1997 well sampling, exceedence of the interim threshold criteria necessitated other actions. These actions included more frequent indoor air monitoring, expansion of the soil gas vapor well network at the site, and the evaluation of remedial actions such as soil vapor extraction (SVE). In the winter and spring of 1998, the Waste Disposal, Inc. Group (WDIG), the potentially responsible parties involved in cleanup of the WDI site, installed several soil vapor wells between the buried waste and site buildings, in addition to establishing the site boundary soil vapor well monitoring network. USEPA determined, based on soil gas results, that additional near building monitoring wells were necessary to monitor for subsurface gas contaminants in the immediate vicinity of all site structures. The USEPA tasked CDM Federal, under a contract with the U.S. Army Corps of Engineers, South Pacific District, Sacramento, to install the additional vapor monitoring wells in July 1998.

### **1.2 PURPOSE OF WELL INSTALLATION**

Site data collected by USEPA under the Contingency Plan and by the WDIG in subsequent soil gas investigations identified elevated concentrations of soil gas chemicals of concern (COCs), in excess of the interim threshold criteria, adjacent to some site buildings. To respond to the decision criteria outlined in the Contingency Plan for exceedence of the interim criteria, USEPA determined that near building soil gas monitoring was warranted for all structures that bordered upon buried wastes. The WDIG initiated this effort, but did not complete it. Based on the partial well network established by the WDIG, USEPA determined that 10 building locations met the requirement for permanent monitoring points between the buried waste and the building. The specific objectives of the vapor well installation effort were as follows:

- To complete the near building permanent soil gas monitoring well network.

- To evaluate concentrations of COCs in the vicinity of all buildings that bordered buried wastes.
- To assess the potential for preferential gas migration pathways in the vicinity of buildings bordering buried wastes.

This technical memorandum describes the field work conducted by CDM Federal to install and sample ten new vapor monitoring wells at the WDI site during July 1998. Figure 1 presents the locations of the 10 new vapor wells (VW54 through VW63). Vapor wells VW01 to VW26 were installed by USEPA in 1988, and wells VW27 to VW53 were installed by the WDIG in 1997/98.

## **2.0 WELL INSTALLATION PROCEDURES**

### **2.1 OVERVIEW OF FIELD ACTIVITIES**

Each of the new ten vapor wells contains three probes constructed of 1-inch diameter PVC well casing screened at selected intervals. The three intervals were between 5 and 12 feet below ground surface (bgs) to represent the soil interval above the buried site wastes (site wastes can be typically found between 5 ft and 30 feet bgs); 13 and 20 feet bgs to cover the average depth of waste at the site; and 24 to 30 feet bgs to represent a typical depth interval below the zone of buried wastes. Table 1 presents the screen intervals for each of the ten well locations addressed in this document.

**Table 1**  
**Total Depths and Screen Intervals of Vapor Wells Installed by**  
**CDM Federal in July 1998**

VAPOR WELL	TOTAL DEPTH (ft bgs)	DEPTHS OF SCREEN INTERVALS (ft bgs)		
		Shallow Probe	Middle Probe	Deep Probe
VW54	31	8 - 12	17 - 20	25 - 30
VW55	31	5 - 10	15 - 18	25 - 30
VW56	31	5 - 8	15 - 20	25 - 30
VW57	28	4 - 7	13 - 18	23 - 26
VW58	30	5 - 8	14 - 19	24 - 29
VW59	31	5 - 8	15 - 18	25 - 30
VW60	31	5 - 8	14 - 19	25 - 30
VW61	31	5 - 8	14 - 19	25 - 30
VW62	31	5 - 10	15 - 18	25 - 30
VW63	29	5 - 8	13.5 - 18.5	23 - 28

ft - feet

bgs - below ground surface

After the wells were installed, soil gas samples were collected and sent to Quanterra Environmental Services for analysis of volatile organic compounds (VOCs), methane, and total nonmethane hydrocarbons. The following sections describe the procedures used to install the wells along with field observations of buried wastes. The remaining text presents the field measurements and analytical results for the vapor well samples.

## 2.2 VAPOR WELL INSTALLATION

The ten new soil vapor monitoring wells were installed by Spectrum Exploration, Inc. (Spectrum) using a hollow stem auger drill rig. Each vapor well was installed with three probes screened at the intervals described above. The vapor wells were constructed using the following materials: 1-inch diameter Schedule 40 PVC casing; 0.02-inch slotted screen; threaded end caps on the bottom; slip caps on the top; 1/4-inch diameter pea gravel for the filter packs; and hydrated bentonite to separate the filter packs of each probe. Figure 2 shows the construction details of a typical multi-level vapor well.

The screen intervals of the vapor wells were identified in accordance with the methodology used by the WDIG to install wells VW27 to VW53. According to Technical Memorandum No. 7, (WDIG submittal dated November 25, 1997), the objectives of the screened zones are to: (1) monitor shallow soils, generally those found above buried waste (sludge materials); (2) monitor sludge materials or the zone at equivalent elevations to the nearest sludge materials, and (3) monitor soil beneath sludge materials or at the zone at equal elevations to the nearest beneath sludge soils. Both CDM Federal and the WDIG had difficulty in meeting the objectives of the shallow probes because sludge material occurs very close to the surface (i.e., less than 5 ft bgs) at many locations. If a well is screened too close to the surface, the bentonite and cement seal placed above the screen interval will be of insufficient length to prevent ambient (surface) air from infiltrating the probe casing. The middle and deeper vapor probes were installed consistent with the WDIG criteria, however.

During the well installation activity, soil samples were collected in 5-foot split spoon samplers to log the soil conditions (lithology) and to note whether waste material was present at the well location. Attachment A presents the soil boring logs for the ten wells. Waste material (primarily hydrocarbon-stained soil) was identified at vapor well locations VW54, VW55, VW57, VW60, and VW63.

During the drilling of the vapor wells, drill cuttings were placed in 55-gallon drums for temporary storage on wooden pallets in the southern corner of Area 2. The WDIG subsequently consolidated the drill

cuttings with general site investigative wastes for disposal under the site cover during recent grading (“winterizing”) work at the site conducted in October 1998.

### **2.3 VAPOR WELL SAMPLING AND ANALYSIS PROCEDURES**

Soil gas samples were collected from the newly installed vapor wells using procedures documented in the Subsurface Gas Contingency Plan (CDM Federal, 1997). After checking each probe for water, each probe was purged with a vacuum pump. Methane, oxygen, carbon dioxide, and total VOC concentrations were measured while purging the wells. After the methane, oxygen, and carbon dioxide levels stabilized, soil gas samples were collected in 6-liter SUMMA canisters for off-site analysis. The samples were hand delivered to Quanterra (located in the City of Industry, California) for analysis of VOCs by USEPA Method TO-15 and for methane and total nonmethane hydrocarbons by South Coast Air Quality Management District (SCAQMD) Method 25.1.

In addition to the collection of 29 primary soil gas samples the ten tri-level vapor wells (the shallow probe at VW55 was flooded and could not be sampled), three duplicate samples and two equipment blank samples were collected. The equipment blanks consisted of evacuated SUMMA canisters carried to the field, returned to the laboratory unopened, and then filled by Quanterra with purified air prior to analysis.

#### **Field Instruments and Equipment Used During Soil Gas Sampling**

<u>Description</u>	<u>Instrument/Model</u>
Vacuum Pump	GAST Vacuum/Compressor Pump, Model No. DOAP104AA.
CH <sub>4</sub> , CO <sub>2</sub> , and O <sub>2</sub> Monitor	Landtec GA-90 Infrared Gas Analyzer
VOC Monitor	OVM 580B with 10.6 eV Lamp
Sample Container	6-Liter stainless steel SUMMA canister

## **3.0 RESULTS**

### **3.1 FIELD MEASUREMENTS**

Table 2 presents the methane, oxygen, and carbon dioxide measurements made in the field while purging the wells. The shallow probe at VW55 could not be purged or sampled because it had water at 4.4 feet bgs. The shallow probe at VW57 was the only other probe that contained water. Field instruments

detected methane in only two wells (VW55 and VW62) and VOCs in only two wells (VW54 and VW61). Less than 2 percent methane was present at VW55 and VW62. The deep probe of VW61 contained 20.6 parts per million (ppm) VOCs and the three probes at VW54 contained less than 1 ppm VOCs. High levels of oxygen measured in several of the shallow probes suggest ambient air may be infiltrating from the surface into these probes.

### **3.2 LABORATORY RESULTS**

Table 3 presents the analytical results of the soil gas samples analyzed by Quanterra. A total of 20 VOCs were reported for the soil gas samples. As shown in Table 3, methane concentrations reported by Quanterra were similar to the concentrations measured in the field. Table 4 shows the frequency of detection and the maximum concentrations of the 20 VOCs detected. Trichloroethene and tetrachloroethene were the most frequently reported COCs, reported for all sample locations except for VW61. Concentrations of the following three VOCs exceeded the interim soil gas threshold levels developed for the WDI site in the Soil Gas Contingency Plan:

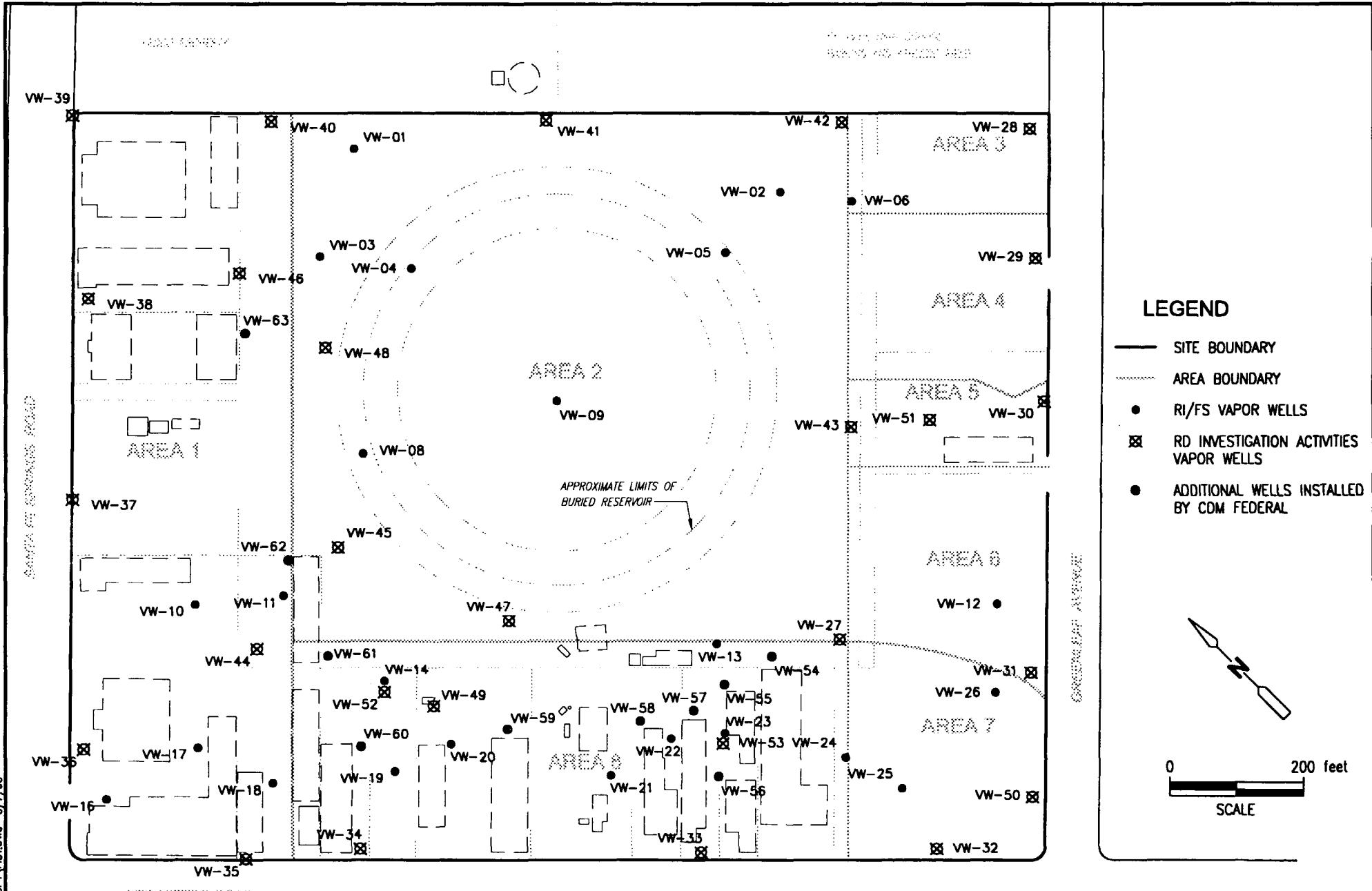
- Vinyl chloride exceeded its soil gas threshold level of 25 parts per billion by volume (ppbv) at VW55 and VW61;
- Trichloroethene exceeded its threshold level of 822 ppbv at VW57 and VW58; and
- 1,2-dichloropropane exceeded its threshold level of 186 ppbv at VW55, VW61.

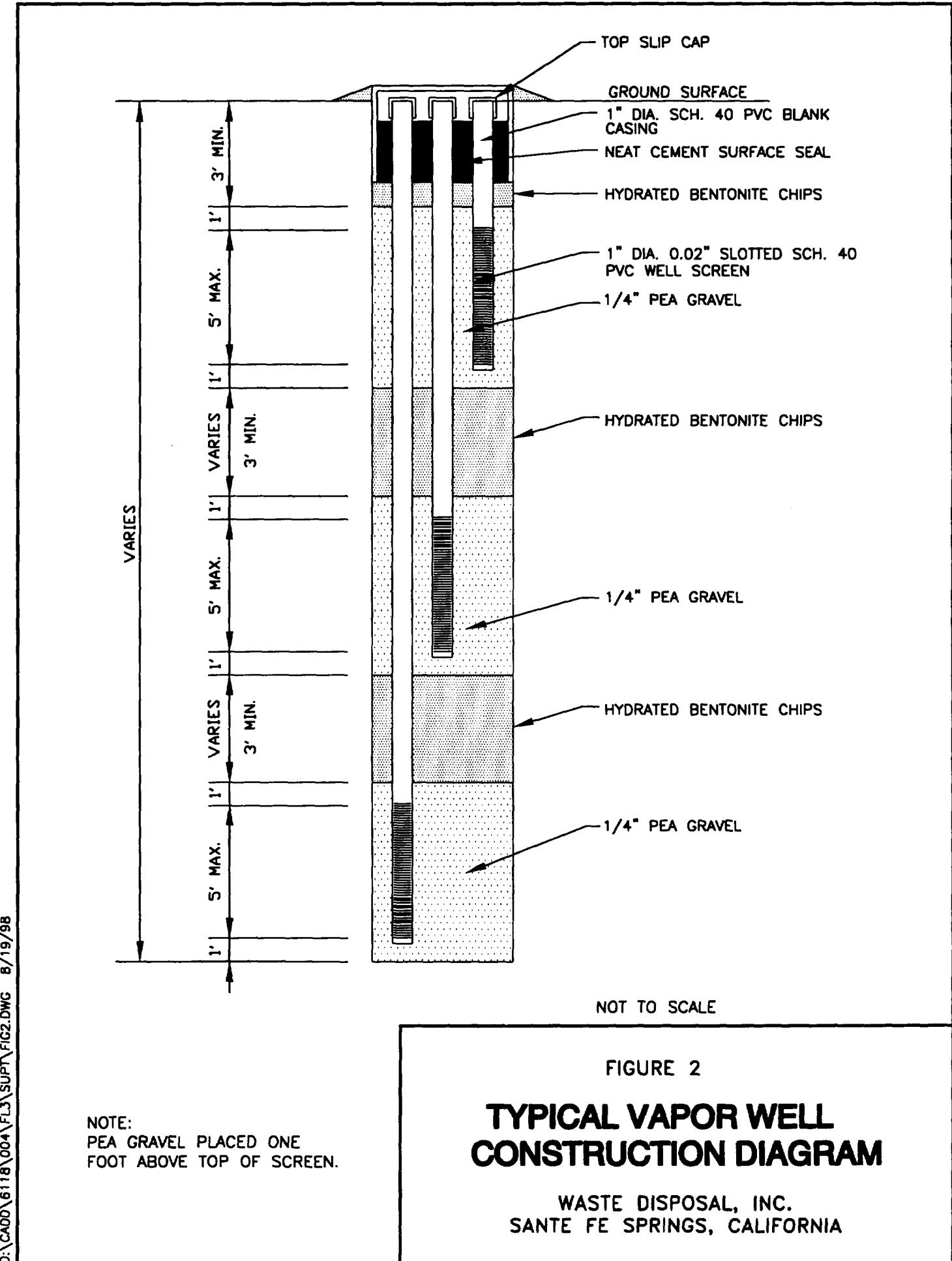
None of the 17 other VOCs detected exceeded threshold levels.

### **4.0 CONCLUSIONS**

Four monitoring wells locations (VW55, VW57, VW58, and VW61) exceeded soil gas interim threshold criteria for at least one COC. These wells should be sampled on a quarterly basis for the COCs until implementation of the site remedy and a final soil well monitoring network is established.

**ATTACHMENT A**  
**BORING LOGS**





**Table 2**  
**Methane, Carbon Dioxide, Oxygen and VOC Levels Measured in**  
**Soil Gas Purged from Newly Installed Vapor Wells**

Well ID	Screen Interval (ft)	Initial Readings				Final Readings				Comment
		CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Total VOCs (ppm)	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Total VOCs (ppm)	
VW54	8-12	0	3.3	15.8	0.3	0	4.3	14.6	0.3	
	17-20	0	6.9	10.3	0.7	0	10.1	6.2	1.5	
	25-30	0	10.1	7.5	1.0	0	14.0	1.9	1.0	
VW55	5-10	NA	NA	NA	NA	NA	NA	NA	NA	water at 4.4 ft bgs
	15-18	0	0	20	0	1.4	14.0	2.2	0	
	25-30	0	0	20	0	0.3	10.4	6.5	0	
VW56	5-8	0	10.3	0	0	0	14.8	0	0	
	15-20	0	13.9	3.0	0	0	14.0	3.0	0	
	25-30	0	9.6	7.9	0	0	13.2	3.3	0	
VW57	4-7	0	0	20	0	0	0.8	19.1	0	water at 6.94 ft bgs
	13-18	0.4	4.4	15.1	0	0	7.2	11.4	0	
	23-26	0	7.2	10.9	0	0	11.9	4.3	0	
VW58	5-8	0	8.5	11.3	0	0	8.9	11.9	0	
	14-19	0	11.8	3.2	0	0	11.9	3.1	0	
	24-29	0	8.2	8.5	0	0	11.0	3.8	0	
VW59	5-8	0	4.8	15.9	0	0	3.9	16.7	0	
	15-18	0	15.8	2.2	0	0	14.9	2.1	0	
	25-30	0	0.9	17.0	0	0	4.5	13.2	0	
VW60	5-8	0	8.1	17.4	0	0	7.6	17.7	0	
	14-19	0.4	13.0	3.4	0	0	15.0	0.9	0	
	25-30	0	0.9	18.5	0	0	7.9	9.8	0	
VW61	5-8	0.0	2.9	17.1	0	0	2.8	17.3	0	
	14-19	0	10.3	7.7	0	0	11.8	5.9	0	
	25-30	0	12.4	3.5	19.0	0	13.2	3.3	20.6	
VW62	5-10	1.3	8.6	2.9	0	1.7	9.9	3.1	0	
	15-18	0.3	11.1	2.3	0	0.5	12.1	1.8	0	
	25-30	0.4	7.1	6.0	0	0.7	10.9	1.8	0	
VW63	5-8	0.0	0.6	19.5	0	0	0.6	19.7	0	
	13.5-18.5	0	12.4	3.2	0	0	11.8	3.6	0	
	23-28	0.0	10.8	4.4	0	0.0	13.1	2.2	0	

NA - not applicable. The shallow probe at VW55 was not purged or sampled because it was full of water.

Table 3  
Soil Gas Results for 10 New Vapor Wells July 1998  
Waste Disposal Inc. Site

Vapor Well ID	VW54	VW54	VW54	VW55	VW55	VW56	VW56	VW56	VW56
Sample Date	7/30/98	7/30/98	7/30/98	7/29/98	7/29/98	7/29/98	7/29/98	7/29/98	7/29/98
Screen Interval	8-12	17-20	25-30	15-18	25-30	5-8	15-20	25-30	25-30
Note:									Duplicate
Field Methane (%)	0	0	0	1.4	0.3	0	0	0	0
Field PID VOCs (ppm)	0.3	1.5	1.0	0	0	0	0	0	0
Lab Methane (%)	0.24	0.24	0.23	3.0	1.8	0.0024	0.0017 U	0.0017 U	0.0018 U
Lab Non-CH <sub>4</sub> Hydrocarbons (ppm)	170 U	180 U	170 U	340	170 U	180 U	170 U	170 U	180 U
Laboratory Parameter	Result Qual (ppbv)								
Dichlorodifluoromethane	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
Chloromethane	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
Vinyl Chloride	3.5 U	2.7	0.20 U	73	45	15	3.5 U	3.5 U	4.4 U
1,2-Dichloro-1,1,2,2-tetrachlorofluoroethane	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
Bromomethane	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
Chloroethane	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
1,1-Dichloroethene	3.5 U	2.5	2.6	56	33	5.7	3.5 U	3.5 U	4.4 U
Trichlorofluoromethane	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
1,1,2-Trichloro-1,2,2-trifluorocethane	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
Methylene chloride	3.5 U	0.20 U	0.20 U	2.6 U	2.6 U	5.8	7.3	11	8.2
1,1-Dichloroethane	3.5 U	0.25	0.20 U	11	6.2	16	11	8.6	8.4
cis-1,2-Dichloroethene	3.5 U	7.3	7.2	250	130	370	46	7.7	6.5
Chloroform	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	22	28	23
1,1,1-Trichloroethane	3.5 U	0.20 U	0.20 U	2.6 U	2.6 U	1.8 U	3.5 U	3.5 U	4.4 U
Carbon tetrachloride	3.5 U	0.20 U	0.20 U	2.6 U	2.6 U	1.8 U	3.5 U	3.5 U	4.4 U
Benzene	3.5 U	0.99	0.98	20	7.0	27	4.1	3.5 U	4.4 U
1,2-Dichloroethane	3.5 U	0.20 U	0.20 U	2.6 U	2.6 U	1.8 U	3.5 U	3.5 U	4.4 U
Trichloroethene	3.5 U	4.9	3.8	470	320	250	600	660	720
1,2-Dichloropropane	3.5 U	0.20 U	0.35	2.6 U	2.6 U	1.8 U	3.5 U	3.5 U	4.4 U
cis-1,3-Dichloropropene	3.5 U	0.20 U	0.20 U	2.6 U	2.6 U	1.8 U	3.5 U	3.5 U	4.4 U
Toluene	17 U	2.5	2.4	13 U	13 U	8.9 U	17 U	17 U	22 U
trans-1,3-Dichloropropene	3.5 U	0.20 U	0.20 U	2.6 U	2.6 U	1.8 U	3.5 U	3.5 U	4.4 U
1,1,2-Trichloroethane	3.5 U	0.20 U	0.20 U	2.6 U	2.6 U	1.8 U	3.5 U	3.5 U	4.4 U
Tetrachloroethene	3.5 U	0.81	0.49	11	7.6	61	48	47	47
1,2-Dibromoethane (EDB)	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
Chlorobenzene	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
Ethylbenzene	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
m- & p-Xylene(s)	35 U	2.0 U	2.0	26 U	26 U	18 U	35 U	35 U	22 U
o-Xylene	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
Styrene	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
1,1,2,2-Tetrachloroethane	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
1,3,5-Trimethylbenzene	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
1,2,4-Trimethylbenzene	17 U	1.0 U	1.0 U	44	17	8.9 U	17 U	17 U	22 U
1,3-Dichlorobenzene	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
1,4-Dichlorobenzene	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U
1,2-Dichlorobenzene	17 U	1.0 U	1.0 U	13 U	13 U	8.9 U	17 U	17 U	22 U

U = Compound analyzed but not detected.

ANALYTICAL RESULTS SHADED GRAY EXCEED SOIL GAS THRESHOLD LEVELS (see Table 4).

Table 3  
Soil Gas Results for 10 New Vapor Wells July 1998  
Waste Disposal Inc. Site

Vapor Well ID	VW57	VW57	VW57	VW58	VW58	VW58	VW59	VW59	VW59	VW59
Sample Date	7/29/98	7/29/98	7/29/98	7/29/98	7/29/98	7/29/98	7/29/98	7/29/98	7/29/98	7/29/98
Screen Interval	4-7	13-18	23-26	5-8	14-19	24-29	5-8	5-8	15-18	25-30
Note:							Duplicate			
Field Methane (%)	0	0	0	0	0	0	0	0	0	0
Field PID VOCs (ppm)	0	0	0	0	0	0	0	0	0	0
Lab Methane (%)	0.024	0.17	0.27	0.0018 U	0.0017 U					
Lab Non-CH <sub>4</sub> Hydrocarbons (ppm)	180 U	170 U	170 U	180 U	170 U					
Laboratory Parameter	Result Qual (ppbv)									
Dichlorodifluoromethane	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
Chloromethane	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
Vinyl Chloride	0.20 U	13	15 U	27 U	27 U	27 U	0.20 U	0.20 U	1.2 U	0.87 U
1,2-Dichloro-1,1,2,2-tetrachlorofluoroethane	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
Bromomethane	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.8 U	4.4 U
Chloroethane	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
1,1-Dichloroethene	0.20 U	17	21	27 U	27 U	27 U	0.20 U	0.20 U	1.2 U	0.87 U
Trichlorofluoromethane	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
Methylene chloride	0.82	4.2 U	15 U	30	27 U	27 U	1.4	1.7	1.2 U	0.87 U
1,1-Dichloroethane	0.20 U	7.0	15 U	28	27 U	27 U	0.20 U	0.20 U	1.2 U	0.87 U
cis-1,2-Dichloroethene	0.34	58	64	27 U	27 U	27 U	0.78	0.87	1.2 U	0.87 U
Chloroform	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
1,1,1-Trichloroethane	0.26	4.2 U	15 U	79	27 U	27 U	0.20 U	0.20 U	1.2 U	0.87 U
Carbon tetrachloride	0.20 U	4.2 U	15 U	32	27 U	27 U	0.20 U	0.20 U	1.2 U	0.87 U
Benzene	2.6	4.2 U	15 U	39	27 U	27 U	4.1	4.3	1.2 U	0.87 U
1,2-Dichloroethane	0.20 U	4.2 U	15 U	28	27 U	27 U	0.20 U	0.20 U	1.2 U	0.87 U
Trichloroethene	4.5	880	940	390 U	3500	3100	0.46	0.43	13	1.2
1,2-Dichloropropane	0.20 U	4.2 U	15 U	31	27 U	27 U	0.20 U	0.20 U	1.2 U	0.87 U
cis-1,3-Dichloropropene	0.20 U	4.2 U	15 U	27 U	27 U	27 U	0.20 U	0.20 U	1.2 U	0.87 U
Toluene	5.6	21 U	76 U	130 U	130 U	130 U	2.5	2.3	5.9 U	4.4 U
trans-1,3-Dichloropropene	0.20 U	4.2 U	15 U	27 U	27 U	27 U	0.20 U	0.20 U	1.2 U	0.87 U
1,1,2-Trichloroethane	0.20 U	4.2 U	15 U	27 U	27 U	27 U	0.20 U	0.20 U	1.2 U	0.87 U
Tetrachloroethene	1.6	61	75	58	110	110	15	16	120	44
1,2-Dibromoethane (EDB)	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
Chlorobenzene	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
Ethylbenzene	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
m- & p- Xylene(s)	2.0 U	42 U	150 U	270 U	270 U	270 U	2.0 U	2.0 U	12 U	8.7 U
o-Xylene	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
Styrene	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
1,1,2,2-Tetrachloroethane	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
1,3,5-Trimethylbenzene	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
1,2,4-Trimethylbenzene	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
1,3-Dichlorobenzene	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
1,4-Dichlorobenzene	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U
1,2-Dichlorobenzene	1.0 U	21 U	76 U	130 U	130 U	130 U	1.0 U	1.0 U	5.9 U	4.4 U

U = Compound analyzed but not detected.

ANALYTICAL RESULTS SHADED GRAY EXCEED SOIL GAS THRESHOLD LEVELS (see Table 4).

Table 3  
Soil Gas Results for 10 New Vapor Wells July 1998  
Waste Disposal Inc. Site

Vapor Well ID	VW60	VW60	VW60	VW61	VW61	VW61	VW61	VW62	VW62	VW62
Sample Date	7/30/98	7/30/98	7/30/98	7/30/98	7/30/98	7/30/98	7/30/98	7/30/98	7/30/98	7/30/98
Screen Interval	5-8	14-19	25-30	5-8	14-19	25-30	5-10	15-18	25-30	
Note:							Duplicate			
Field Methane (%)	0	0	0	0	0	0		1.7	0.5	0.7
Field PID VOCs (ppm)	0	0	0	0	0	20.6		0	0	0
Lab Methane (%)	0.0017 U	0.0017 U	0.0017 U	0.0017 U	0.39	0.12	0.13	6.1	2.5	3.1
Lab Non-CH <sub>4</sub> Hydrocarbons (ppm)	170 U	170 U	170 U	170 U	170 U	600	710	190	170 U	170 U
Laboratory Parameter	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
	(ppbv)		(ppbv)		(ppbv)		(ppbv)		(ppbv)	
Dichlorodifluoromethane	12 U		2.1 U	1.1	2.1 U	22 U	44 U	36 U	17 U	1.0 U
Chloromethane	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
Vinyl Chloride	2.4 U		0.42 U	0.2 U	0.42 U	340	86	100	3.5 U	1.4
1,2-Dichloro-1,1,2,2-tetrachlorofluoroethane	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
Bromomethane	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
Chloroethane	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
1,1-Dichloroethene	2.4 U		0.42 U	0.2 U	0.42 U	4.4 U	8.8 U	7.2 U	3.5 U	0.20 U
Trichlorofluoromethane	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
Methylene chloride	12		3.0	1.1	0.62	4.4 U	8.8 U	7.2 U	3.5 U	0.20 U
1,1-Dichloroethane	2.4 U		22	5.0	0.42 U	78	87	97	3.5 U	0.21
cis-1,2-Dichloroethene	2.4 U		0.42 U	0.20 U	0.42 U	8.8	23	28	3.5 U	0.48
Chloroform	12 U		2.1 U	1.0 U	2.1 U	22 U	44	36	17 U	1.0 U
1,1,1-Trichloroethane	4.5		0.42 U	0.36	2.5	4.4 U	8.8 U	7.2 U	3.5 U	0.20 U
Carbon tetrachloride	2.4 U		0.42 U	0.20 U	0.42 U	4.4 U	8.8 U	7.2 U	3.5 U	0.20 U
Benzene	2.4 U		0.48	0.84	2.1	8.7	8.8 U	7.2 U	3.5 U	0.74
1,2-Dichloroethane	2.4 U		0.42 U	0.20 U	0.42 U	4.4 U	8.8 U	7.2 U	3.5 U	0.20 U
Trichloroethene	16		4.2	1.0	2.7	4.4 U	8.8 U	7.2 U	3.5 U	0.60
1,2-Dichloropropane	2.4 U		0.42 U	0.20 U	0.42 U	230	210 F	250 F	3.5 U	0.68 F
cis-1,3-Dichloropropene	2.4 U		0.42 U	0.20 U	0.42 U	4.4 U	8.8 U	7.2 U	3.5 U	0.20 U
Toluene	13		14	6.7	3.3	22 U	44 U	48	17 U	2.4
trans-1,3-Dichloropropene	2.4 U		0.42 U	0.20 U	0.42 U	4.4 U	8.8 U	7.2 U	3.5 U	0.20 U
1,1,2-Trichloroethane	2.4 U		0.42 U	0.20 U	0.42 U	4.4 U	8.8 U	7.2 U	3.5 U	0.20 U
Tetrachloroethene	310		36	22	40	4.4 U	8.8 U	7.2 U	3.5 U	0.23
1,2-Dibromoethane (EDB)	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
Chlorobenzene	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	4.5
Ethylbenzene	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
m- & p-Xylene(s)	24 U		4.2 U	2.6	4.2 U	44 U	88 U	72 U	35 U	2.0 U
o-Xylene	12 U		2.1 U	1.0	2.1 U	22 U	44 U	36 U	17 U	1.0 U
Styrene	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
1,1,2,2-Tetrachloroethane	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
1,3,5-Trimethylbenzene	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
1,2,4-Trimethylbenzene	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
1,3-Dichlorobenzene	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
1,4-Dichlorobenzene	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U
1,2-Dichlorobenzene	12 U		2.1 U	1.0 U	2.1 U	22 U	44 U	36 U	17 U	1.0 U

U = Compound analyzed but not detected.

F = Reported value estimated due to an interference.

ANALYTICAL RESULTS SHADED GRAY EXCEED SOIL GAS THRESHOLD LEVELS (see Table 4).

Table 3  
Soil Gas Results for 10 New Vapor Wells July 1998  
Waste Disposal Inc. Site

Vapor Well ID	VW63	VW63	VW63	B1	B2
Sample Date	7/30/98	7/30/98	7/30/98	7/29/98	7/30/98
Screen Interval	5-8	13.5-18.5	23-28		
Note:				Blank	Blank
Field Methane (%)	0	0	0		
Field PID VOCs (ppm)	0	0	0		
Lab Methane (%)	0.0017 U	0.0017 U	0.0017 U	0.0010 U	0.0010 U
Lab Non-CH <sub>4</sub> Hydrocarbons (ppm)	170 U	170 U	170 U	100 U	100 U
Laboratory Parameter	Result Qual (ppbv)				
Dichlorodifluoromethane	1.0 U	4.2 U	12 U	1.0 U	1.0 U
Chloromethane	1.0 U	4.2 U	12 U	1.0 U	1.0 U
Vinyl Chloride	0.20 U	0.84 U	2.4 U	0.20 U	0.20 U
1,2-Dichloro-1,1,2,2-tetrachlorofluoroethane	1.0 U	4.2 U	12 U	1.0 U	1.0 U
Bromomethane	1.0 U	4.2 U	12 U	1.0 U	1.0 U
Chloroethane	1.0 U	4.2 U	12 U	1.0 U	1.0 U
1,1-Dichloroethene	0.20 U	0.84 U	2.4 U	0.20 U	0.20 U
Trichlorofluoromethane	1.0 U	4.2 U	12 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0 U	4.2 U	12 U	1.0 U	1.0 U
Methylene chloride	0.56	0.84 U	2.4 U	0.20 U	0.20 U
1,1-Dichloroethane	0.20 U	0.84 U	2.4 U	0.20 U	0.20 U
cis-1,2-Dichloroethene	0.20 U	0.84 U	2.4 U	0.20 U	0.20 U
Chloroform	1.0 U	4.2 U	12 U	1.0 U	1.0 U
1,1,1-Trichloroethane	1.2	0.84 U	2.4 U	0.20 U	0.20 U
Carbon tetrachloride	0.20 U	0.84 U	2.4 U	0.20 U	0.20 U
Benzene	0.85	0.84 U	2.4 U	0.20 U	0.20 U
1,2-Dichloroethane	0.20 U	0.84 U	2.4 U	0.20 U	0.20 U
Trichloroethene	0.46	7.5	14	0.20 U	0.20 U
1,2-Dichloropropane	0.20 U	0.84 U	2.4 U	0.20 U	0.20 U
cis-1,3-Dichloropropene	0.20 U	0.84 U	2.4 U	0.20 U	0.20 U
Toluene	3.4	4.2 U	12 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	0.20 U	0.84 U	2.4 U	0.20 U	0.20 U
1,1,2-Trichloroethane	0.20 U	0.84 U	2.4 U	0.20 U	0.20 U
Tetrachloroethene	0.57	120	200	0.20 U	0.20 U
1,2-Dibromoethane (EDB)	1.0 U	4.2 U	12 U	1.0 U	1.0 U
Chlorobenzene	1.0 U	4.2 U	12 U	1.0 U	1.0 U
Ethylbenzene	1.0 U	4.2 U	12 U	1.0 U	1.0 U
m- & p-Xylene(s)	2.0 U	8.4 U	24 U	2.0 U	2.0 U
o-Xylene	1.0 U	4.2 U	12 U	1.0 U	1.0 U
Styrene	1.0 U	4.2 U	12 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	1.0 U	4.2 U	12 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	1.0 U	4.2 U	12 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	1.0 U	4.2 U	12 U	1.0 U	1.0 U
1,3-Dichlorobenzene	1.0 U	4.2 U	12 U	1.0 U	1.0 U
1,4-Dichlorobenzene	1.0 U	4.2 U	12 U	1.0 U	1.0 U
1,2-Dichlorobenzene	1.0 U	4.2 U	12 U	1.0 U	1.0 U

U = Compound analyzed but not detected.

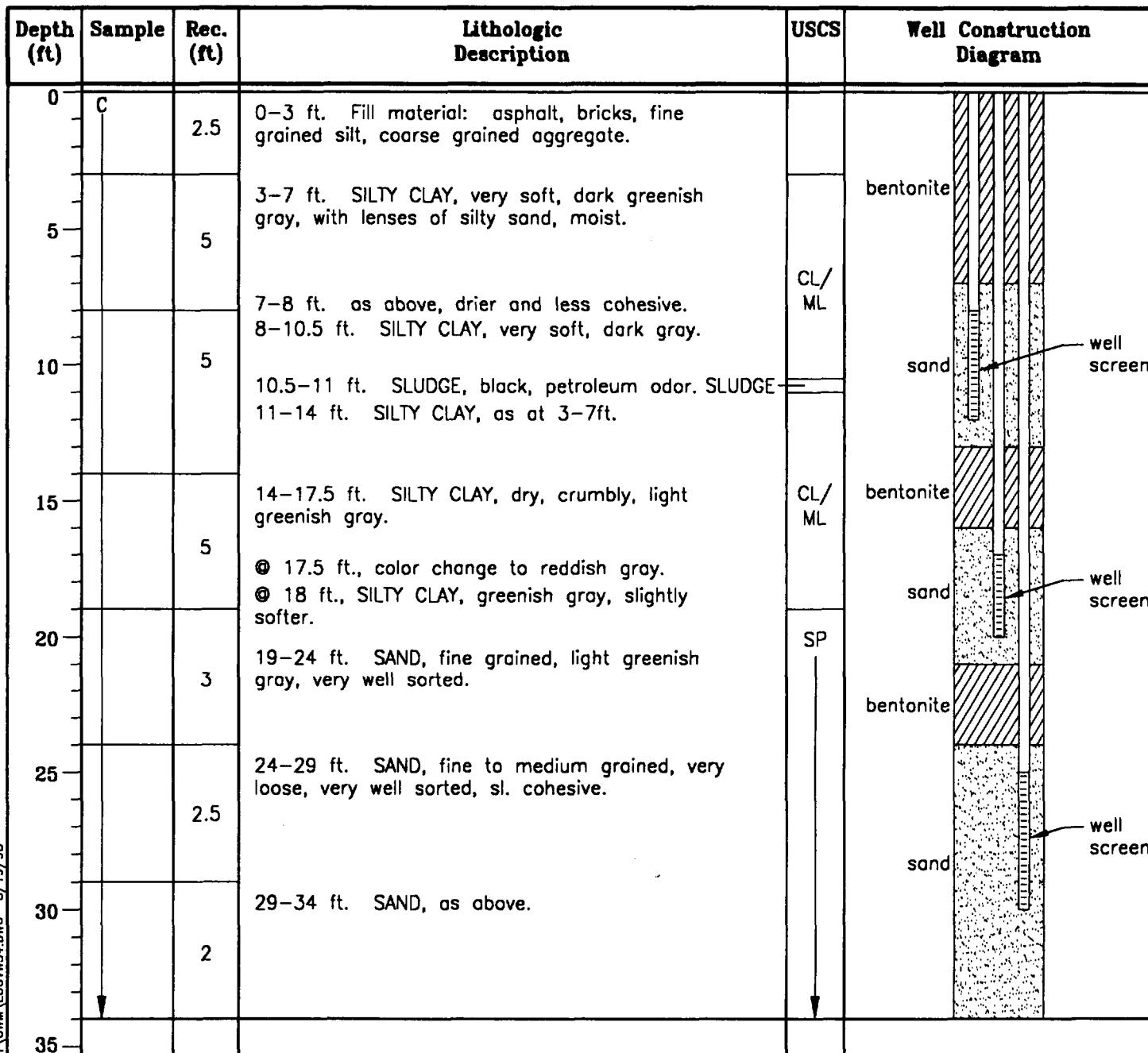
**TABLE 4**  
**SUMMARY OF ANALYTICAL RESULTS FOR 10 NEW**  
**VAPOR WELLS JULY 1998**  
**WASTE DISPOSAL INC. SITE**

Chemical	Soil Gas Threshold Level (ppbv)	Frequency of Detection	Maximum Concentration (ppbv)	Vapor wells that exceed soil gas threshold levels
Dichlorodifluoromethane	NA	1/32	1.1	
Vinyl Chloride	25	10/32	340	VW55 and VW61
1,1-Dichloroethene	NA	8/32	56	
Methylene Chloride	NA	13/32	30	
1,1-Dichloroethane	25,600	15/32	97	
cis-1,2-Dichloroethene	1,860	18/32	370	
Chloroform	340	5/32	44	
1,1,1-Trichloroethene	36,800	6/32	79	
Carbon Tetrachloride	68	1/32	32	
Benzene	200	17/32	39	
1,2-Dichloroethane	360	1/32	28	
Trichloroethene	822	27/32	3,900	VW57 and VW58
1,2-Dichloropropane	186	6/32	250	VW61
Toluene	21,200	13/32	48	
Tetrachloroethene	1,064	27/32	310	
Chlorobenzene	NA	1/32	4.5	
Ethylbenzene	49,000	1/32	1.8	
m- & p-Xylene	14,280	3/32	3.1	
o-Xylene	14,280	2/32	2.2	
1,2,4-Trimethylbenzene	NA	3/32	44	

NA - not applicable, action level not developed for this compound.

**ATTACHMENT A**  
**BORING LOGS**

<b>BORING LOG</b>		<b>BORING/WELL NO.:</b> VW-54	<b>Page</b> <u>1</u> <b>of</b> <u>1</u>
Installation: Waste Disposal Inc.		Site: -	
Project No.: 6118	Client/Project: USACE		
Contractor: CDM Federal	Drlg Contractor: Spectrum Exploration, Inc.	Driller: D. Boston	
Drlg Started: 7/6/98	Drlg Ended: 7/6/98	Borehole dia(s): 8 in.	
Drlg Method/Rig Type: HSA CME 75		Elevation (ft): -	
Logged by: P. Severson	E-Log (Y/N) From - to -	Protection Level: D	



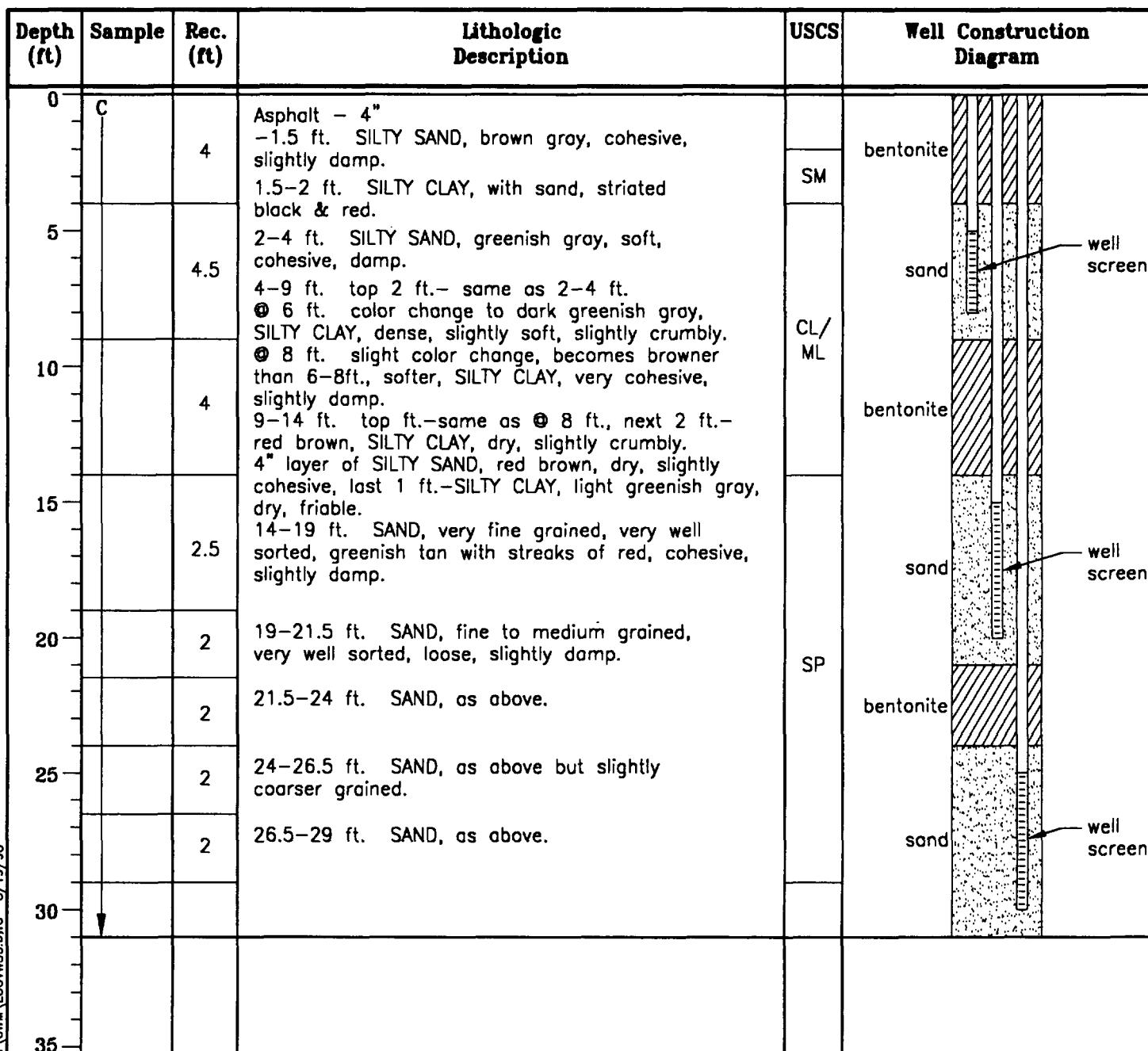
C = Thin wall tube	R = Rock coring	Field G/C (Make/Mod.)
S = Split spoon (tube)	O = Other	G/C Oper.:
C = Cuttings	Notes	

<b>BORING LOG</b>		<b>BORING/WELL NO.:</b> VW-55	<b>Page</b> <u>1</u> <b>of</b> <u>1</u>
Installation: Waste Disposal Inc.		Site: -	
Project No.: 6118	Client/Project: USACE		
Contractor: CDM Federal	Drlg Contractor: Spectrum Exploration, Inc.	Driller: D. Boston	
Drlg Started: 7/7/98	Drlg Ended: 7/7/98	Borehole dia(s): 8 in.	
Drlg Method/Rig Type: HSA CME 75		Elevation (ft): -	
Logged by: P. Severson	E-Log (Y/N) From - to -	Protection Level: -	

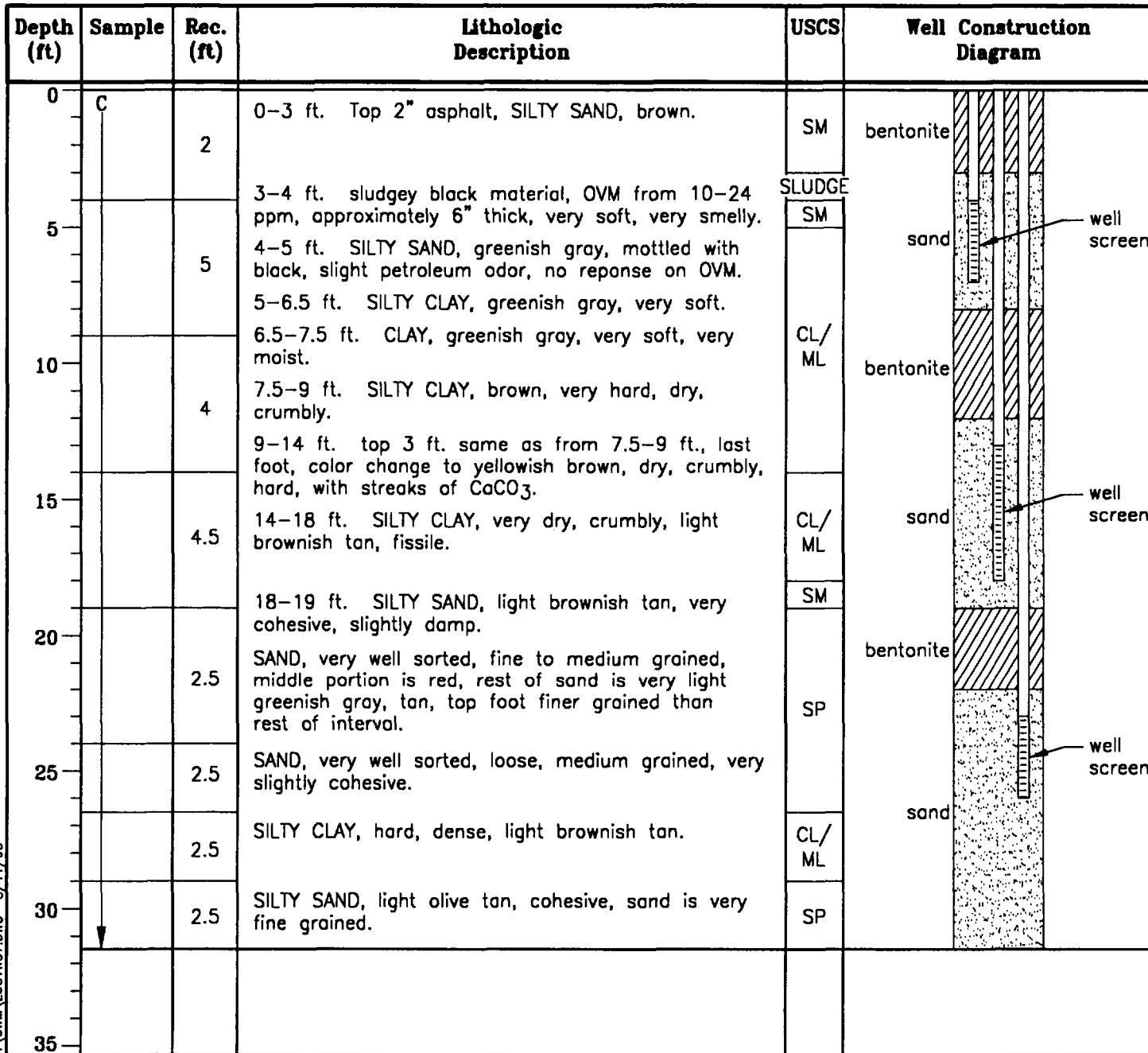
Depth (ft)	Sample	Rec. (ft)	Lithologic Description	USCS	Well Construction Diagram
0	C	3.5	0-1 ft. Top 2" asphalt, SILTY SAND, dark greenish gray, damp, cohesive. 1-3 ft. SILTY CLAY, soft, dark greenish gray, mottled with black, very cohesive.	SM CL/ ML	bentonite
5		5	3-4 ft. as above, but more sludgey material, smells of oil, no response on OVM. 4.5-5.5 ft. SILTY SAND, greenish gray, cohesive. 5.5-8.5 ft. CLAY, dark green, very soft, moist. 8.5-9 ft. very distinct change to SLUDGE, SLUDGE very smelly, very moist.	SM CL	sand
10		5	9-13.5 ft. SILTY CLAY, dark greenish gray, very cohesive, hard.	CL/ ML	bentonite
15		3.5	13.5-14 ft. color change to blue gray, dry, crumblier texture than above. 14-19 ft. as above, but mottled red-brown layers, bottom few inches is very fine grained sand, laminated light tan and greenish gray.	CL	sand
20		2.5	SAND, medium grained, very well sorted, damp, cohesive, 19-21 ft. is light greenish gray. 21-21.5 ft. is tan.	SP	bentonite
		2.5	SAND, medium grained, light tan, damp, slightly cohesive, very well sorted.		
25		2.5	SAND, medium grained, well sorted, ~2% gravel to 5/8" long + 1% clay, brown sand is loose, not cohesive.		sand
30					
35					

C = Thin wall tube      R = Rock coring      Field G/C (Make/Mod.) \_\_\_\_\_  
 S = Split spoon (tube)      O = Other      G/C Oper.: \_\_\_\_\_  
 C = Cuttings      Notes \_\_\_\_\_

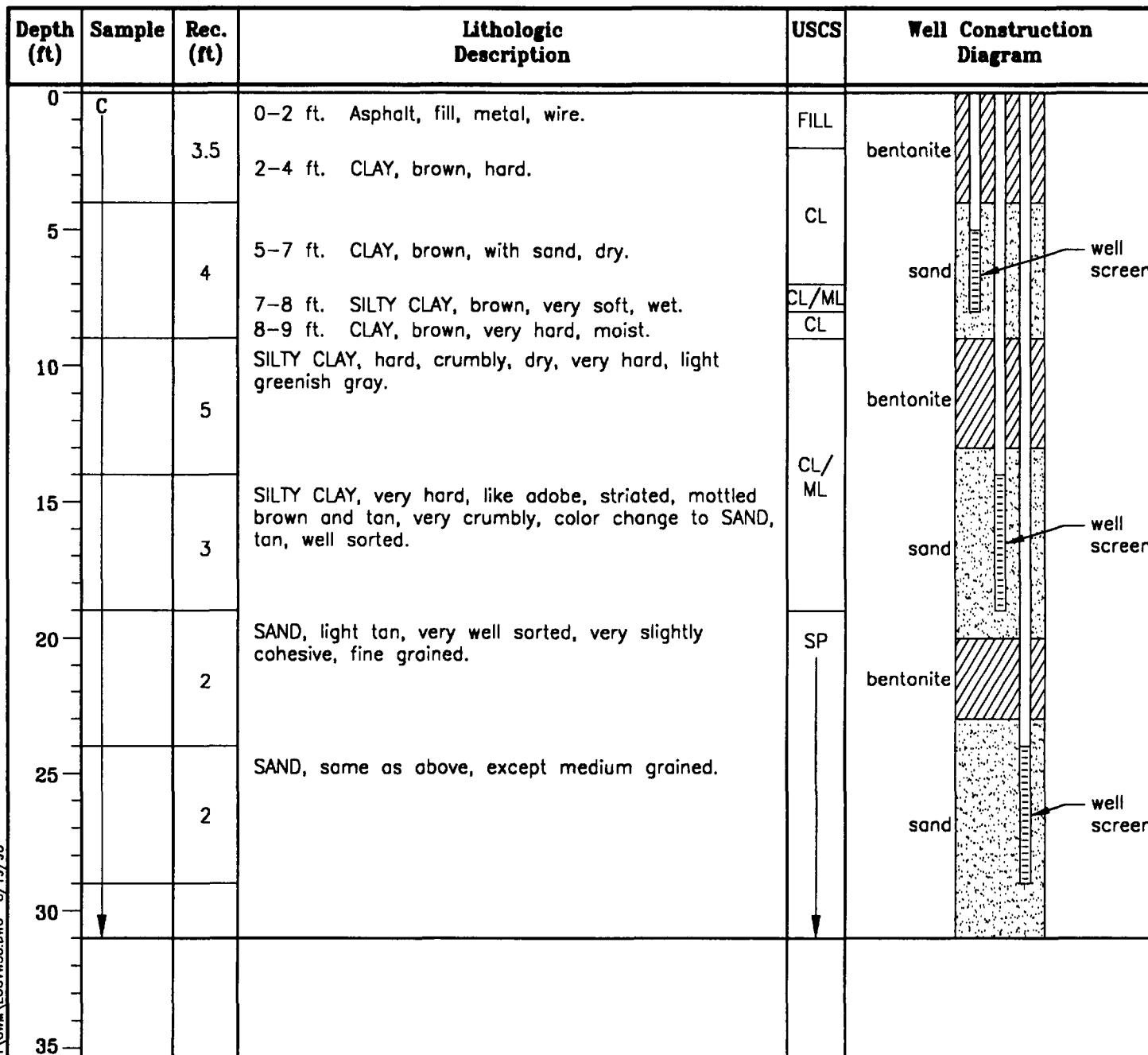
<b>BORING LOG</b>		<b>BORING/WELL NO.:</b> VW-56	<b>Page</b> <u>1</u> <b>of</b> <u>1</u>
Installation: Waste Disposal Inc.		Site: Durango	
Project No.: 6118		Client/Project: USACE	
Contractor: CDM Federal		Drilg Contractor: Spectrum Exploration, Inc.	Driller: D. Boston
Drilg Started: 7/8/98		Drilg Ended: 7/8/98	Borehole dia(s): 8 in.
Drilg Method/Rig Type: HSA CME 75		Elevation (ft): -	
Logged by: P. Severson		E-Log (Y/N) From - to -	Protection Level: D



<b>BORING LOG</b>		<b>BORING/WELL NO.:</b> VW-57	<b>Page</b> <u>1</u> <b>of</b> <u>1</u>
Installation: Waste Disposal Inc.		Site: -	
Project No.: 6118		Client/Project: USACE	
Contractor: CDM Federal		Drilg Contractor: Spectrum Exploration, Inc.	
Drilg Started: 7/7/98		Drilg Ended: 7/7/98	
Drilg Method/Rig Type: HSA CME 75		Borehole dia(s): 8 in.	
Logged by: P. Severson		E-Log (Y/N) From - to -	
Logged by: P. Severson		Protection Level: D	



<b>BORING LOG</b>		<b>BORING/WELL NO.:</b> VW-58	<b>Page</b> <u>1</u> <b>of</b> <u>1</u>
Installation: Waste Disposal Inc.		Site: -	
Project No.: 6118		Client/Project: USACE	
Contractor: CDM Federal		Drilg Contractor: Spectrum Exploration, Inc.	
Drilg Started: 7/7/98		Drilg Ended: 7/7/98	
Drilg Method/Rig Type: HSA CME 75		Borehole dia(s): 8 in.	
Logged by: P. Severson		E-Log (Y/N)	From <u>-</u> to <u>-</u>
Logged by: P. Severson		E-Log (Y/N)	Protection Level: -



C = Thin wall tube      R = Rock coring      Field G/C (Make/Mod.) \_\_\_\_\_  
 S = Split spoon (tube)      O = Other      G/C Oper.: \_\_\_\_\_  
 C = Cuttings      Notes      No wastes (other than metal at top) encountered in this boring.

<b>BORING LOG</b>		<b>BORING/WELL NO.:</b> VW-59	<b>Page</b> <u>1</u> <b>of</b> <u>1</u>
Installation: Waste Disposal Inc.		Site: D & H Laminating	
Project No.: 6118		Client/Project: USACE	
Contractor: CDM Federal		Drlg Contractor: Spectrum Exploration, Inc.	Driller: D. Boston
Drlg Started: 7/9/98		Drlg Ended: 7/9/98	Borehole dia(s): 8 in.
Drlg Method/Rig Type: HSA CME 75		Elevation (ft): -	
Logged by: P. Severson		E-Log (Y/N) From _____ to _____	Protection Level: D

Depth (ft)	Sample	Rec. (ft)	Lithologic Description	USCS	Well Construction Diagram
0	C	1	Bottom of core barrel was plugged with a piece of red brick and asphalt debris. recovered CLAY, brown, very dry.		bentonite
5		5	4-6 ft. SILTY SAND, light green brown, soft, cohesive, slightly damp. 6-6.5 ft. SILTY CLAY, light greenish brown, soft, very cohesive. 6.5-7.5 ft. CLAY, soft, very cohesive, dry. 7.5-8.5 ft. CLAY, brown-green, softer than @ 6.5-7.5 ft., slightly, damp, very cohesive. 8.5-9 ft. SILTY CLAY, red-brown, very hard, dry. 9-14 ft. SANDY SILT, red, very hard, dry, crumbly.	SM CL/ ML	sand
10		5		SM	bentonite
15		3	14-19 ft. Top 1.5 ft-SILTY CLAY, very brown, dry, forms little clay balls. bottom 1.5 ft-SILTY SAND, very brown, slightly damp, slightly cohesive, tends to crumble.	CL/ ML & SM	sand
20		2	19-24 ft. SAND, fine to coarse grained, moderately well sorted, slightly damp, slightly cohesive, reddish brown-tan.	SP	bentonite
25		2.5	24-26.5 ft. SAND, as above.	ML	
		2	26.5-29 ft. top 6 in.-SANDY SILT with CLAY, bottom 1.5 ft.-very fine grained sand, greenish red brown, damp, cohesive.	SP	sand
30		1	29-30 ft. SAND, fine grained, very well sorted, damp, cohesive.		
35					

C = Thin wall tube	R = Rock coring	Field G/C (Make/Mod.)
S = Split spoon (tube)	O = Other	G/C Oper.:
C = Cuttings	Notes	

<b>BORING LOG</b>		BORING/WELL NO.: VW-60	Page <u>1</u> of <u>1</u>
Installation: Waste Disposal Inc.		Site: car lot	
Project No.: 6118		Client/Project: USACE	
Contractor: CDM Federal		Drig Contractor: Spectrum Exploration, Inc.	
Drlg Started: 7/15/98		Drlg Ended: 7/15/98	
Drlg Method/Rig Type: HSA CME 75		Borehole dia(s): 8 in.	
Logged by: P. Severson		E-Log (Y/N) From <u>-</u> to <u>-</u>	Elevation (ft): -
Logged by: P. Severson		Protection Level: D	

Depth (ft)	Sample	Rec. (ft)	Lithologic Description	USCS	Well Construction Diagram
0	C	4	Concrete 6 in. 0-2 ft. SILTY SAND, medium brown. 2-4 ft. SILTY CLAY, very hard, dense.	SM CL/ML CL SLUDGE	bentonite sand well screen
5		5	4-7.5 ft. CLAY, brown, slightly soft, very cohesive. 7.5-8.5 ft. SLUDGE, greenish gray, with black streaks, very soft. 8.5-9 ft. SILTY CLAY, red brown, harder than above.		
10		5	SILTY CLAY, red brown, hard, very cohesive, crumbly.	CL/ML	bentonite sand well screen
15		4	SILTY SAND, very cohesive, slightly damp.	SM	
20		2	SAND, fine to medium grained, slightly damp, very well sorted, loose.		bentonite sand well screen
25		2	SAND, fine to coarse grained, slightly damp, loose, fairly well sorted.	SP	
30		2	SAND, fine to coarse grained, slightly damp, loose, very well sorted - bottom is very fine grained.		sand well screen
35					

<b>BORING LOG</b>		<b>BORING/WELL NO.:</b> VW-61	<b>Page</b> <u>1</u> <b>of</b> <u>1</u>
Installation: Waste Disposal Inc.		Site: car lot	
Project No.: 6118		Client/Project: USACE	
Contractor: CDM Federal		Drig Contractor: Spectrum Exploration, Inc.	
Drig Started: 7/15/98		Drig Ended: 7/15/98	
Drig Method/Rig Type: HSA CME 75		Borehole dia(s): 8 in.	
Logged by: P. Severson		E-Log (Y/N) From - to -	
		Protection Level: D	

Depth (ft)	Sample	Rec. (ft)	Lithologic Description	USCS	Well Construction Diagram
0	C	2	0-4 ft. upper 1 ft. recovered is SILTY SAND, very dry with gravel to 1". lower 1 ft. is slightly damp, SILTY CLAY, brown with black streaks of sludge material.	SM CL/ML	bentonite
5		3	4-9 ft. SILTY SAND, greenish gray with streaks of gray, very soft, very cohesive, lower foot is wet.	SM	sand
10		5	SILTY CLAY, blue gray, very soft, very cohesive, wet. lower 8 in. is CLAY, dark brown, crumbly, veined with gray, dry.	CL/ML	bentonite
15		5	CLAY, dark brown, crumbly, dry, slightly cohesive, very hard. lower 1.5 ft. is wetter, not as crumbly, slightly soft.	CL	sand
20		3.5	Top 1 ft-SILTY CLAY, light tan brown, forms clay balls. rest of material except for last 2-3 in. is SILTY SAND, cohesive, slightly damp. last few inches is SAND, very fine grained, very well sorted, damp, cohesive.	CL/ML SM	bentonite
25		2	SAND, well sorted, fine to medium grained, slightly cohesive.	SP	sand
30		2	SAND, fairly well sorted, fine to coarse grained, dry, loose.		
32.5		2.5	SAND, very fine grained, damp, cohesive, very well sorted.		well screen
35					

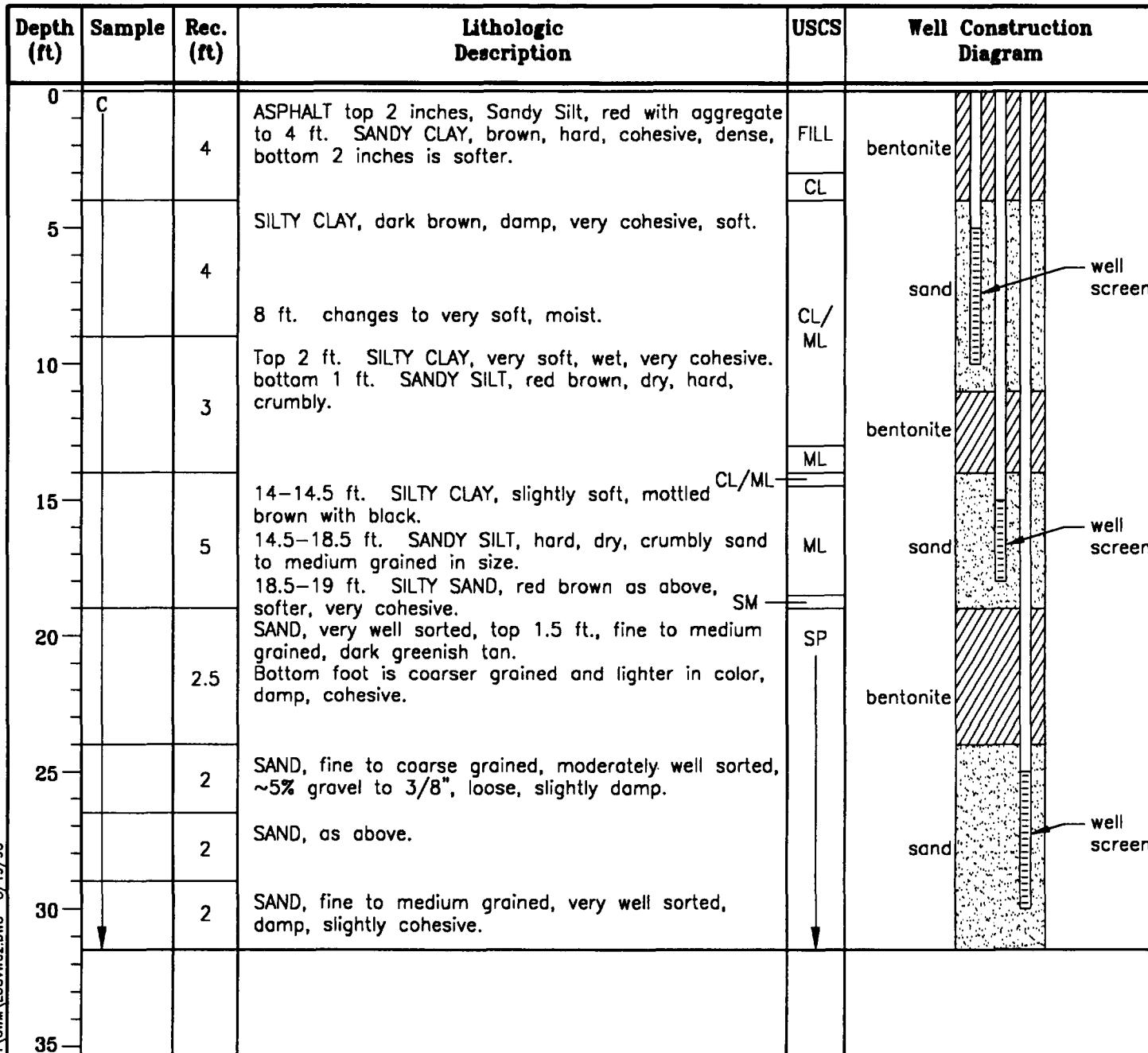
D:\CADD\6118\004\DM1\GWA LOG\V61.DWG 8/19/98

C = Thin wall tube      R = Rock coring      Field G/C (Make/Mod.) \_\_\_\_\_

S = Split spoon (tube)      O = Other      G/C Oper.: \_\_\_\_\_

C = Cuttings      Notes: \_\_\_\_\_

<b>BORING LOG</b>		<b>BORING/WELL NO.:</b> VW-62	<b>Page</b> <u>1</u> <b>of</b> <u>1</u>
Installation: Waste Disposal Inc.		Site: C & E Die & Fab.	
Project No.: 6118		Client/Project: USACE	
Contractor: CDM Federal		Drlg Contractor: Spectrum Exploration, Inc.	Driller: D. Boston
Drlg Started: 7/8/98		Drlg Ended: 7/8/98	Borehole dia(s): 8 in.
Drlg Method/Rig Type: HSA CME 75		Elevation (ft): -	
Logged by: P. Severson		E-Log (Y/N) From _____ to _____	Protection Level: D



<b>BORING LOG</b>		<b>BORING/WELL NO.:</b> VW-63	<b>Page</b> 1 <b>of</b> 1
Installation: Waste Disposal Inc.		Site: -	
Project No.: 6118		Client/Project: USACE	
Contractor: CDM Federal		Drilg Contractor: Spectrum Exploration, Inc.	Driller: D. Boston
Drilg Started: 7/6/98		Drilg Ended: 7/7/98	Borehole dia(s): 8 in.
Drilg Method/Rig Type: HSA CME 75		Elevation (ft): -	
Logged by: P. Severson	E-Log (Y/N)	From - to -	Protection Level: D

Depth (ft)	Sample	Rec. (ft)	Lithologic Description	USCS	Well Construction Diagram
0	C	2	ASPHALT @ surface ~6 inches thick, 0.5-4 ft. fill material, light brown sandy clay with gravel, stiff, gray, dry sand and dark brown, stiff, silty clay.		bentonite
5		2.5	4-6 ft. SLUDGE, dark gray to black, smells of petroleum, on top of this material is a 2-3" layer of what looks like a gray precipitate matter-caliche? 6-6.5 ft. SILTY CLAY, reddish gray, stiff.	SLUDGE	sand
10		5	9-14 ft. SILTY SAND, reddish brown, cohesive, dry, very stiff.	SM	bentonite
15		3	SAND with SILT, very fine grained, reddish brown, cohesive.		sand
20		3	top foot same as above, bottom 2 ft. SAND, light tan, fine grained, well sorted, very slightly cohesive.	SP	bentonite
25		2.5	SAND, medium grained, well sorted, loose.		sand
		2.5	Sand, as above.		well screen
30					
35					

C = Thin wall tube      R = Rock coring      Field G/C (Make/Mod.) \_\_\_\_\_  
 S = Split spoon (tube)      O = Other      G/C Oper.: \_\_\_\_\_  
 C = Cuttings      Notes \_\_\_\_\_

**U.S. EPA REGION 9**  
**LABORATORY QC SUMMARY REPORT**

LABORATORY: Quanterra SAS#: SDG#; 133294

SUBMITTED BY: \_\_\_\_\_ # SAMPLES: 17

TITLE: WDI Superfund Site MATRIX: Air

ANALYSIS: VOLATILE ORGANIC COMPOUNDS DATE: 10/23/98  
IN AIR (SUMMA® CANISTERS)  
FOLLOWING CONTRACT LABORATORY  
PROGRAM (CLP) STATEMENT OF WORK  
(SOW) FOR ORGANICS ANALYSIS (OLMO1.9)

**QC SUMMARY TABLE**

QC PARAMETER	QC LIMITS	FREQUENCY
Laboratory method blank (concentration of target analytes)	<CRQL = ?	each 12 hour period during sample analysis
Initial and continuing calibration (4 - bromofluorobenzene tuning)	as per requirements specified in Exhibit D, Section III, Part C, Item 14.5, and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92)	beginning of each 12 hour period during sample analysis
Initial calibration (%RSD)	as per requirements specified in Exhibit D, Section III, Part C, Item 14.5, and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92)	as needed
Initial calibration (minimum relative response factor ([RRF]))	as per requirements specified in Exhibit D, Section III, Part C, Item 14.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92)	as needed

QC PARAMETER	QC LIMITS	FREQUENCY
Continuing calibration (%D)	as per requirements specified in Exhibit D, Section III, Part C, Item 15.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92)	every 12 hours during sample analysis
Continuing calibration (minimum RRF)	as per requirements specified in Exhibit D, Section III, Part C, Item 15.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92)	every 12 hours during sample analysis
CRQL standard (%R)	65 - 135%	once every 12 hours during sample analysis
System monitoring compounds (%R)	as per requirements listed in Table 6 of Exhibit D of CLP SOW (OLMO1.9)	all standards, blanks, environmental samples, and QC samples
Internal standards (areas, retention times)	as per requirements listed in Exhibit D, Section 7.4.8, of CLP SOW (OLMO1.9)	all blanks, environmental samples, and QC samples
NIST audit gas sample (%R)	50 - 150%	once every 12 hours during sample analysis
BS/BSD (%R)	as per requirements listed in Table 7 of Exhibit D of CLP SOW (OLMO1.9)	1 per SDG
BS/BSD (RPD)	as per requirements listed in Table 7 of Exhibit D of CLP SOW (OLMO1.9)	1 per SDG

1. Was the pressure of all samples checked YES NO upon receipt and reported?

a. If no, list which samples were not checked for initial pressure?

2. Were all samples analyzed within the contract required holding time of 12 days from the date of sample receipt by the laboratory? **YES** NO
- a. If no, list the samples that were analyzed outside of the holding time.
- 
- b. How many days outside of the holding time were these samples analyzed?
- 
3. Were all samples analyzed within the technical holding time of 14 days from the date of collection? **YES** NO
- a. If no, list the samples that were analyzed outside of the holding time.
- 
- b. How many days outside of the holding time were these samples analyzed?
- 
4. Were all samples received intact and in good condition? **YES** NO
5. Was the data package sent within 35 days from the date of receipt of the last sample in the SDG? YES **NO**
- A. If no, how many days late was the data package sent?
- 2 days
- 
6. Were the protocols outlined in the Contract Laboratory Program (CLP) Statement of Work (SOW) for Organics Analysis (OLMO1.9) followed for the analysis of these samples? **YES** NO

- a. If no, specify which method was used.

Also, Volatile Organic Compounds by USEPA Method TO-15 and Methane and Total Nonmethane by South Coast Air Quality Management District (SCAQMD)

- b. If no, why was this method used and who authorized its use?

+ the letter dated June 16, 1998 from Quanterra to CDM Federal.

- c. Was the approved method followed  
without modifications or deviations? **YES** NO
- d. If no, specify what the modification or deviations were and who approved them.

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7. Was a BFB tune performed every 12 hours during sample analysis? **YES** NO

- a. If no, why not? \_\_\_\_\_

8. Were the ion abundance criteria specified in Table 1 of Exhibit D, Section 6.4.4, of the CLP SOW (OLMO1.9) met for all BFB tunes that were performed? **YES** NO

- a. If no, why not? \_\_\_\_\_

9. Was a 5-point initial calibration curve analyzed prior to sample analyses? **YES** NO

- a. If yes, when? \_\_\_\_\_

- b. If no, why not? \_\_\_\_\_

10. Did the initial calibration standards contain all target analytes at the concentrations specified in Table D-1 of Exhibit D, Section II, Part B, Item 7.5 of the Superfund Analytical Methods for Low Concentration Water for Organics Analysis (SAMLCO, 10-92)? **YES** NO

- a. If no, why not? \_\_\_\_\_
11. Did the initial calibration curve meet the QC requirements for %RSD specified in Exhibit D, Section III, Part C, Item 14.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92) for all target compounds? YES NO
- a. If no, specify the analyte(s) and %RSD(s) that were outside of the QC limits.
- Chloroethane - 35.25% - No qualifications as all chloroethane results are nondetect.
12. Was a continuing calibration standard analyzed during every 12-hour time period in which samples were analyzed? YES NO
- a. If no, why not? \_\_\_\_\_
13. Were percent differences (%D) for target compounds in the continuing calibration standards within the QC requirement specified in Exhibit D, Section III, Part C, Item 15.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92) for all target compounds? YES NO
- a. If no, specify the analyte(s) and %D(s) that were outside of the QC limits.
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
14. Were the RRFs for analytes in the initial calibrations within the requirements specified in Exhibit D, Section III, Part C, Item 14.5 and YES NO

Exhibit D, Section V, Table D-3 of  
the SAMLCO (10-92) for all target  
compounds?

a. If no, why not? \_\_\_\_\_

15. Were the RRFs for analytes in the continuing calibrations within the requirements specified in Exhibit D, Section III, Part C, Item 15.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92) for all target compounds? YES NO

a. If no, why not? \_\_\_\_\_

16. Was a CRQL standard run every 12 hours during sample analysis? Reported as a low level QC Check Standard. YES NO

a. If no, at what frequency were CRQL standards analyzed?

17. Were CRQL standard recoveries within the QC requirements of 65-135%? YES NO

a. If no, list the noncompliant recoveries and the affected samples.

Aug. 4, 1998 Chloroethane - 59.6%  
Benzene - 149.3%  
1, 2 - dichloroethane - 140.5%  
1, 2 - dichloropropane - 140.4%  
No action - no samples were analyzed on August 4, 1998.

18. Were the area counts of all internal standards within - 50% to +100% of the area count for each respective internal standard in the associated continuing calibration? YES NO

a. If no, specify the sample(s) and internal standard(s) that were outside of the QC limits.

19. Were the retention times of all the internal standards within  $\pm$  30 seconds of the retention time for each respective internal standard in the associated continuing calibration?
- a. If no, specify the sample(s) and internal standard(s) that were outside of the QC limits.
- 
20. Were laboratory method blanks analyzed at a minimum frequency of 1 per each 12 hour period during sample analysis?
- a. If no, at what frequency were method blank analyses performed.
- 
21. Were laboratory method blanks free of contamination at concentrations exceeding the CRQL for all analytes?
- a. If no, specify contaminants(s) and at what level(s) it was (they were) present.
- 
22. Were recoveries for system monitoring compounds within the requirements specified in Table 6 of Exhibit D of the CLP SOW (OLMO1.9) for all samples?
- a. If no, list the recoveries and the associated samples that were above this range.
- 1) VW55-018-1, 2 - Dichloroethane - d4-133%
- 2) VW55-018 Dup (Laboratory Duplicate) - 1, 2 - Dichloroethane-d4-167%
- 1) All positive results for this sample were estimated as "J."
- 2) No action taken for QC Samples.

- b. Were samples with noncompliant recoveries reanalyzed? **YES** **NO**  
If no, why not? \_\_\_\_\_
23. Was a National Institute of Standards and Technology (NIST) audit gas sample analyzed in each 12-hour time period during which samples were analyzed? **YES** **NO**  
a. If no, at what frequency were NIST audit gas sample analyses performed.  
Laboratory does not run them.
24. Were NIST gas sample analyte recoveries within the QC requirement of 50-150% **YES** **NO**  
a. If no, specify the analyte(s) and %R(s) that were outside of the QC limits.  
\_\_\_\_\_
25. Were BS/BSD analyses performed at a minimum frequency of 1 per SDG? **YES** **NO**  
a. If no, why not? \_\_\_\_\_
26. Were BS/BSD recoveries within requirements specified in Table 7 of Exhibit D of the CLP SOW (OLMO1.9) for all spike compounds? **YES** **NO**  
a. If no, specify the analyte(s) and %R(s) that were outside of the QC limits.  
\_\_\_\_\_
27. Were the relative percent differences (RPDs) between BS/BSD recoveries within the requirements specified in Table 7 of Exhibit D of the CLP SOW (OLMO1.9) for all spike compounds? **YES** **NO**

a. If no, specify the analyte(s) and RPD(s) that were outside of the QC limits.

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28. Were the CRQLs met for all analytes? **YES** NO

a. If no, why not? \_\_\_\_\_

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29. Was it possible to analyze all target compounds within the range of the initial calibration curve? **YES** NO

a. If no, were samples containing target analytes at concentrations exceeding the initial calibration range reanalyzed using a smaller initial sample volume as required by Section 8.b.6 of the SAS Client Request Form?

b. If yes, list these samples, the analytes above range, and the analyte concentration.

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c. If no, explain why not and list the affected samples.

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30. Field Duplicate Precision

Field duplicate pairs (VW56-028 and VW56-328) and (VW59-007 and VW59-307) were included in this SDG. The RPD results were within the required control limits.

31. Laboratory Duplicate Precision (TO15-Method)

RPD results for the laboratory duplicate sample were within appropriate control limits.

32. Spike Duplicate (TO15-Method)

All % R and RPD results were within appropriate control limits.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW55-029 (CAN# 9698B)  
 LAB ID: 133294-0001-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 29 JUL 98  
 Analyzed: 03 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	13	U	ppb (v/v)
Chloromethane	13	U	ppb (v/v)
Vinyl chloride	45		ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	13	U	ppb (v/v)
Bromomethane	13	U	ppb (v/v)
Chloroethane	13	U	ppb (v/v)
1,1-Dichloroethene	33		ppb (v/v)
Trichlorofluoromethane	13	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	13	U	ppb (v/v)
Methylene chloride	2.6	U	ppb (v/v)
1,1-Dichloroethane	6.2		ppb (v/v)
cis-1,2-Dichloroethene	130		ppb (v/v)
Chloroform	13	U	ppb (v/v)
1,1,1-Trichloroethane	2.6	U	ppb (v/v)
Carbon tetrachloride	2.6	U	ppb (v/v)
Benzene	7.0		ppb (v/v)
1,2-Dichloroethane	2.6	U	ppb (v/v)
Trichloroethene	320		ppb (v/v)
1,2-Dichloropropane	2.6	U	ppb (v/v)
cis-1,3-Dichloropropene	2.6	U	ppb (v/v)
Toluene	13	U	ppb (v/v)
trans-1,3-Dichloropropene	2.6	U	ppb (v/v)
1,1,2-Trichloroethane	2.6	U	ppb (v/v)
Tetrachloroethene	7.6		ppb (v/v)
1,2-Dibromoethane (EDB)	13	U	ppb (v/v)
Chlorobenzene	13	U	ppb (v/v)
Ethylbenzene	13	U	ppb (v/v)
m- & p-Xylene(s)	26	U	ppb (v/v)
o-Xylene	13	U	ppb (v/v)
Styrene	13	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	13	U	ppb (v/v)
1,3,5-Trimethylbenzene	13	U	ppb (v/v)
1,2,4-Trimethylbenzene	17		ppb (v/v)
1,3-Dichlorobenzene	13	U	ppb (v/v)
1,4-Dichlorobenzene	13	U	ppb (v/v)
1,2-Dichlorobenzene	13	U	ppb (v/v)
1,2-Dichloroethane-d4	116	%	
Toluene-d8	105	%	
Bromofluorobenzene	108	%	

U = Compound analyzed but not detected.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW55-018 (CAN# 12634)  
 LAB ID: 133294-0002-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 29 JUL 98  
 Analyzed: 03 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	13	U	ppb (v/v)
Chloromethane	13	U	ppb (v/v)
Vinyl chloride	73	J	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	13	U	ppb (v/v)
Bromomethane	13	U	ppb (v/v)
Chloroethane	13	U	ppb (v/v)
1,1-Dichloroethene	56	J	ppb (v/v)
Trichlorofluoromethane	13	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	13	U	ppb (v/v)
Methylene chloride	2.6	U	ppb (v/v)
1,1-Dichloroethane	11	J	ppb (v/v)
cis-1,2-Dichloroethene	250	J	ppb (v/v)
Chloroform	13	U	ppb (v/v)
1,1,1-Trichloroethane	2.6	U	ppb (v/v)
Carbon tetrachloride	2.6	U	ppb (v/v)
Benzene	20	F J	ppb (v/v)
1,2-Dichloroethane	2.6	U	ppb (v/v)
Trichloroethene	470	J	ppb (v/v)
1,2-Dichloropropane	2.6	U	ppb (v/v)
cis-1,3-Dichloropropene	2.6	U	ppb (v/v)
Toluene	13	U	ppb (v/v)
trans-1,3-Dichloropropene	2.6	U	ppb (v/v)
1,1,2-Trichloroethane	2.6	U	ppb (v/v)
Tetrachloroethene	11	J	ppb (v/v)
1,2-Dibromoethane (EDB)	13	U	ppb (v/v)
Chlorobenzene	13	U	ppb (v/v)
Ethylbenzene	13	U	ppb (v/v)
m- & p-Xylene(s)	26	U	ppb (v/v)
o-Xylene	13	U	ppb (v/v)
Styrene	13	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	13	U	ppb (v/v)
1,3,5-Trimethylbenzene	13	U	ppb (v/v)
1,2,4-Trimethylbenzene	44	J	ppb (v/v)
1,3-Dichlorobenzene	13	U	ppb (v/v)
1,4-Dichlorobenzene	13	U	ppb (v/v)
1,2-Dichlorobenzene	13	U	ppb (v/v)
1,2-Dichloroethane-d4	133	I	%
Toluene-d8	105	%	
Bromofluorobenzene	101	%	

U = Compound analyzed but not detected.

F = Reported value estimated due to an interference.

I = Surrogate recovery outside of limits due to sample matrix interference.

COPY



## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW55-018 (CAN# 12634)  
 LAB ID: 133294-0002-DU  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 29 JUL 98  
 Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	17	U	ppb (v/v)
Chloromethane	17	U	ppb (v/v)
Vinyl chloride	73		ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	17	U	ppb (v/v)
Bromomethane	17	U	ppb (v/v)
Chloroethane	17	U	ppb (v/v)
1,1-Dichloroethene	56		ppb (v/v)
Trichlorofluoromethane	17	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	17	U	ppb (v/v)
Methylene chloride	3.4	U	ppb (v/v)
1,1-Dichloroethane	11		ppb (v/v)
cis-1,2-Dichloroethene	200		ppb (v/v)
Chloroform	17	U	ppb (v/v)
1,1,1-Trichloroethane	3.4	U	ppb (v/v)
Carbon tetrachloride	3.4	U	ppb (v/v)
Benzene	23	F	ppb (v/v)
1,2-Dichloroethane	3.4	U	ppb (v/v)
Trichloroethene	460		ppb (v/v)
1,2-Dichloropropane	3.4	U	ppb (v/v)
cis-1,3-Dichloropropene	3.4	U	ppb (v/v)
Toluene	17	U	ppb (v/v)
trans-1,3-Dichloropropene	3.4	U	ppb (v/v)
1,1,2-Trichloroethane	3.4	U	ppb (v/v)
Tetrachloroethene	8.5		ppb (v/v)
1,2-Dibromoethane (EDB)	17	U	ppb (v/v)
Chlorobenzene	17	U	ppb (v/v)
Ethylbenzene	17	U	ppb (v/v)
m- & p-Xylene(s)	34	U	ppb (v/v)
o-Xylene	17	U	ppb (v/v)
Styrene	17	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	17	U	ppb (v/v)
1,3,5-Trimethylbenzene	17	U	ppb (v/v)
1,2,4-Trimethylbenzene	42		ppb (v/v)
1,3-Dichlorobenzene	17	U	ppb (v/v)
1,4-Dichlorobenzene	17	U	ppb (v/v)
1,2-Dichlorobenzene	17	U	ppb (v/v)
1,2-Dichloroethane-d4	167	I	%
Toluene-d8	107		%
Bromofluorobenzene	116		%

U = Compound analyzed but not detected.

F = Reported value estimated due to an interference.

I = Surrogate recovery outside of limits due to sample matrix interference.

**COPY****Quanterra**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW57-007 (CAN# 93223)  
 LAB ID: 133294-0003-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 29 JUL 98  
 Analyzed: 01 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	1.0	U	ppb (v/v)
Chloromethane	1.0	U	ppb (v/v)
Vinyl chloride	0.20	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.0	U	ppb (v/v)
Bromomethane	1.0	U	ppb (v/v)
Chloroethane	1.0	U	ppb (v/v)
1,1-Dichloroethene	0.20	U	ppb (v/v)
Trichlorofluoromethane	1.0	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	ppb (v/v)
Methylene chloride	0.82	U	ppb (v/v)
1,1-Dichloroethane	0.20	U	ppb (v/v)
cis-1,2-Dichloroethene	0.34	U	ppb (v/v)
Chloroform	1.0	U	ppb (v/v)
1,1,1-Trichloroethane	0.26	U	ppb (v/v)
Carbon tetrachloride	0.20	U	ppb (v/v)
Benzene	2.6	U	ppb (v/v)
1,2-Dichloroethane	0.20	U	ppb (v/v)
Trichloroethene	4.5	U	ppb (v/v)
1,2-Dichloropropane	0.20	U	ppb (v/v)
cis-1,3-Dichloropropene	0.20	U	ppb (v/v)
Toluene	5.6	U	ppb (v/v)
trans-1,3-Dichloropropene	0.20	U	ppb (v/v)
1,1,2-Trichloroethane	0.20	U	ppb (v/v)
Tetrachloroethene	1.6	U	ppb (v/v)
1,2-Dibromoethane (EDB)	1.0	U	ppb (v/v)
Chlorobenzene	1.0	U	ppb (v/v)
Ethylbenzene	1.0	U	ppb (v/v)
m- & p-Xylene(s)	2.0	U	ppb (v/v)
o-Xylene	1.0	U	ppb (v/v)
Styrene	1.0	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	1.0	U	ppb (v/v)
1,3,5-Trimethylbenzene	1.0	U	ppb (v/v)
1,2,4-Trimethylbenzene	1.0	U	ppb (v/v)
1,3-Dichlorobenzene	1.0	U	ppb (v/v)
1,4-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichloroethane-d4	113	%	
Toluene-d8	108	%	
Bromofluorobenzene	113	%	

U = Compound analyzed but not detected.

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Environmental  
Services

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW57-018 (CAN# 93092)  
 LAB ID: 133294-0004-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 29 JUL 98  
 Analyzed: 01 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	21	U	ppb (v/v)
Chloromethane	21	U	ppb (v/v)
Vinyl chloride	13		ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	21	U	ppb (v/v)
Bromomethane	21	U	ppb (v/v)
Chloroethane	21	U	ppb (v/v)
1,1-Dichloroethene	17		ppb (v/v)
Trichlorofluoromethane	21	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	21	U	ppb (v/v)
Methylene chloride	4.2	U	ppb (v/v)
1,1-Dichloroethane	7.0		ppb (v/v)
cis-1,2-Dichloroethene	58		ppb (v/v)
Chloroform	21	U	ppb (v/v)
1,1,1-Trichloroethane	4.2	U	ppb (v/v)
Carbon tetrachloride	4.2	U	ppb (v/v)
Benzene	4.2	U	ppb (v/v)
1,2-Dichloroethane	4.2	U	ppb (v/v)
Trichloroethene	880		ppb (v/v)
1,2-Dichloropropane	4.2	U	ppb (v/v)
cis-1,3-Dichloropropene	4.2	U	ppb (v/v)
Toluene	21	U	ppb (v/v)
trans-1,3-Dichloropropene	4.2	U	ppb (v/v)
1,1,2-Trichloroethane	4.2	U	ppb (v/v)
Tetrachloroethene	61		ppb (v/v)
1,2-Dibromoethane (EDB)	21	U	ppb (v/v)
Chlorobenzene	21	U	ppb (v/v)
Ethylbenzene	21	U	ppb (v/v)
m- & p-Xylene(s)	42	U	ppb (v/v)
o-Xylene	21	U	ppb (v/v)
Styrene	21	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	21	U	ppb (v/v)
1,3,5-Trimethylbenzene	21	U	ppb (v/v)
1,2,4-Trimethylbenzene	21	U	ppb (v/v)
1,3-Dichlorobenzene	21	U	ppb (v/v)
1,4-Dichlorobenzene	21	U	ppb (v/v)
1,2-Dichlorobenzene	21	U	ppb (v/v)
1,2-Dichloroethane-d4	104	%	
Toluene-d8	102	%	
Bromofluorobenzene	114	%	

U = Compound analyzed but not detected.

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## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW57-026 (CAN# 93006)  
 LAB ID: 133294-0005-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 29 JUL 98  
 Analyzed: 03 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	76	U	ppb (v/v)
Chloromethane	76	U	ppb (v/v)
Vinyl chloride	15	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	76	U	ppb (v/v)
Bromomethane	76	U	ppb (v/v)
Chloroethane	76	U	ppb (v/v)
1,1-Dichloroethene	21		ppb (v/v)
Trichlorofluoromethane	76	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	76	U	ppb (v/v)
Methylene chloride	15	U	ppb (v/v)
1,1-Dichloroethane	15	U	ppb (v/v)
cis-1,2-Dichloroethene	64		ppb (v/v)
Chloroform	76	U	ppb (v/v)
1,1,1-Trichloroethane	15	U	ppb (v/v)
Carbon tetrachloride	15	U	ppb (v/v)
Benzene	15	U	ppb (v/v)
1,2-Dichloroethane	15	U	ppb (v/v)
Trichloroethene	940		ppb (v/v)
1,2-Dichloropropane	15	U	ppb (v/v)
cis-1,3-Dichloropropene	15	U	ppb (v/v)
Toluene	76	U	ppb (v/v)
trans-1,3-Dichloropropene	15	U	ppb (v/v)
1,1,2-Trichloroethane	15	U	ppb (v/v)
Tetrachloroethene	75		ppb (v/v)
1,2-Dibromoethane (EDB)	76	U	ppb (v/v)
Chlorobenzene	76	U	ppb (v/v)
Ethylbenzene	76	U	ppb (v/v)
m- & p-Xylene(s)	150	U	ppb (v/v)
o-Xylene	76	U	ppb (v/v)
Styrene	76	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	76	U	ppb (v/v)
1,3,5-Trimethylbenzene	76	U	ppb (v/v)
1,2,4-Trimethylbenzene	76	U	ppb (v/v)
1,3-Dichlorobenzene	76	U	ppb (v/v)
1,4-Dichlorobenzene	76	U	ppb (v/v)
1,2-Dichlorobenzene	76	U	ppb (v/v)
1,2-Dichloroethane-d4	87	%	
Toluene-d8	101	%	
Bromofluorobenzene	87	%	

U = Compound analyzed but not detected.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW56-008 (CAN# 93114)  
 LAB ID: 133294-0006-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 29 JUL 98  
 Analyzed: 01 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	8.9	U	ppb (v/v)
Chloromethane	8.9	U	ppb (v/v)
Vinyl chloride	15		ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	8.9	U	ppb (v/v)
Bromomethane	8.9	U	ppb (v/v)
Chloroethane	8.9	U	ppb (v/v)
1,1-Dichloroethene	5.7		ppb (v/v)
Trichlorofluoromethane	8.9	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	8.9	U	ppb (v/v)
Methylene chloride	5.8		ppb (v/v)
1,1-Dichloroethane	16		ppb (v/v)
cis-1,2-Dichloroethene	370		ppb (v/v)
Chloroform	8.9	U	ppb (v/v)
1,1,1-Trichloroethane	1.8	U	ppb (v/v)
Carbon tetrachloride	1.8	U	ppb (v/v)
Benzene	27		ppb (v/v)
1,2-Dichloroethane	1.8	U	ppb (v/v)
Trichloroethene	250		ppb (v/v)
1,2-Dichloropropane	1.8	U	ppb (v/v)
cis-1,3-Dichloropropene	1.8	U	ppb (v/v)
Toluene	8.9	U	ppb (v/v)
trans-1,3-Dichloropropene	1.8	U	ppb (v/v)
1,1,2-Trichloroethane	1.8	U	ppb (v/v)
Tetrachloroethene	61		ppb (v/v)
1,2-Dibromoethane (EDB)	8.9	U	ppb (v/v)
Chlorobenzene	8.9	U	ppb (v/v)
Ethylbenzene	8.9	U	ppb (v/v)
m- & p-Xylene(s)	18	U	ppb (v/v)
o-Xylene	8.9	U	ppb (v/v)
Styrene	8.9	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	8.9	U	ppb (v/v)
1,3,5-Trimethylbenzene	8.9	U	ppb (v/v)
1,2,4-Trimethylbenzene	8.9	U	ppb (v/v)
1,3-Dichlorobenzene	8.9	U	ppb (v/v)
1,4-Dichlorobenzene	8.9	U	ppb (v/v)
1,2-Dichlorobenzene	8.9	U	ppb (v/v)
1,2-Dichloroethane-d4	106	%	
Toluene-d8	103	%	
Bromofluorobenzene	115	%	

U = Compound analyzed but not detected.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW56-017 (CAN# 12888)  
 LAB ID: 133294-0007-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 29 JUL 98  
 Analyzed: 01 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	17	U	ppb (v/v)
Chloromethane	17	U	ppb (v/v)
Vinyl chloride	3.5	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	17	U	ppb (v/v)
Bromomethane	17	U	ppb (v/v)
Chloroethane	17	U	ppb (v/v)
1,1-Dichloroethene	3.5	U	ppb (v/v)
Trichlorofluoromethane	17	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	17	U	ppb (v/v)
Methylene chloride	7.3		ppb (v/v)
1,1-Dichloroethane	11		ppb (v/v)
cis-1,2-Dichloroethene	46		ppb (v/v)
Chloroform	22		ppb (v/v)
1,1,1-Trichloroethane	3.5	U	ppb (v/v)
Carbon tetrachloride	3.5	U	ppb (v/v)
Benzene	4.1		ppb (v/v)
1,2-Dichloroethane	3.5	U	ppb (v/v)
Trichloroethene	600		ppb (v/v)
1,2-Dichloropropane	3.5	U	ppb (v/v)
cis-1,3-Dichloropropene	3.5	U	ppb (v/v)
Toluene	17	U	ppb (v/v)
trans-1,3-Dichloropropene	3.5	U	ppb (v/v)
1,1,2-Trichloroethane	3.5	U	ppb (v/v)
Tetrachloroethene	48		ppb (v/v)
1,2-Dibromoethane (EDB)	17	U	ppb (v/v)
Chlorobenzene	17	U	ppb (v/v)
Ethylbenzene	17	U	ppb (v/v)
m- & p-Xylene(s)	35	U	ppb (v/v)
o-Xylene	17	U	ppb (v/v)
Styrene	17	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	17	U	ppb (v/v)
1,3,5-Trimethylbenzene	17	U	ppb (v/v)
1,2,4-Trimethylbenzene	17	U	ppb (v/v)
1,3-Dichlorobenzene	17	U	ppb (v/v)
1,4-Dichlorobenzene	17	U	ppb (v/v)
1,2-Dichlorobenzene	17	U	ppb (v/v)
1,2-Dichloroethane-d4	108	%	
Toluene-d8	106	%	
Bromofluorobenzene	99	%	

U = Compound analyzed but not detected.

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## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
Client ID: VW56-028 (CAN# A-260)  
LAB ID: 133294-0008-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 01 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	17	U	ppb (v/v)
Chloromethane	17	U	ppb (v/v)
Vinyl chloride	3.5	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	17	U	ppb (v/v)
Bromomethane	17	U	ppb (v/v)
Chloroethane	17	U	ppb (v/v)
1,1-Dichloroethene	3.5	U	ppb (v/v)
Trichlorofluoromethane	17	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	17	U	ppb (v/v)
Methylene chloride	11		ppb (v/v)
1,1-Dichloroethane	8.6		ppb (v/v)
cis-1,2-Dichloroethene	7.7		ppb (v/v)
Chloroform	28		ppb (v/v)
1,1,1-Trichloroethane	3.5	U	ppb (v/v)
Carbon tetrachloride	3.5	U	ppb (v/v)
Benzene	3.5	U	ppb (v/v)
1,2-Dichloroethane	3.5	U	ppb (v/v)
Trichloroethene	660		ppb (v/v)
1,2-Dichloropropane	3.5	U	ppb (v/v)
cis-1,3-Dichloropropene	3.5	U	ppb (v/v)
Toluene	17	U	ppb (v/v)
trans-1,3-Dichloropropene	3.5	U	ppb (v/v)
1,1,2-Trichloroethane	3.5	U	ppb (v/v)
Tetrachloroethene	47		ppb (v/v)
1,2-Dibromoethane (EDB)	17	U	ppb (v/v)
Chlorobenzene	17	U	ppb (v/v)
Ethylbenzene	17	U	ppb (v/v)
m- & p-Xylene(s)	35	U	ppb (v/v)
o-Xylene	17	U	ppb (v/v)
Styrene	17	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	17	U	ppb (v/v)
1,3,5-Trimethylbenzene	17	U	ppb (v/v)
1,2,4-Trimethylbenzene	17	U	ppb (v/v)
1,3-Dichlorobenzene	17	U	ppb (v/v)
1,4-Dichlorobenzene	17	U	ppb (v/v)
1,2-Dichlorobenzene	17	U	ppb (v/v)
1,2-Dichloroethane-d4	110	%	
Toluene-d8	108	%	
Bromofluorobenzene	98	%	

U = Compound analyzed but not detected.

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Services

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW58-008 (CAN# 11406)  
 LAB ID: 133294-0009-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 29 JUL 98  
 Analyzed: 03 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	130	U	ppb (v/v)
Chloromethane	130	U	ppb (v/v)
Vinyl chloride	27	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	130	U	ppb (v/v)
Bromomethane	130	U	ppb (v/v)
Chloroethane	130	U	ppb (v/v)
1,1-Dichloroethene	27	U	ppb (v/v)
Trichlorofluoromethane	130	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	130	U	ppb (v/v)
Methylene chloride	30		ppb (v/v)
1,1-Dichloroethane	28		ppb (v/v)
cis-1,2-Dichloroethene	27	U	ppb (v/v)
Chloroform	130	U	ppb (v/v)
1,1,1-Trichloroethane	79		ppb (v/v)
Carbon tetrachloride	32		ppb (v/v)
Benzene	39		ppb (v/v)
1,2-Dichloroethane	28		ppb (v/v)
Trichloroethene	3900		ppb (v/v)
1,2-Dichloropropane	31		ppb (v/v)
cis-1,3-Dichloropropene	27	U	ppb (v/v)
Toluene	130	U	ppb (v/v)
trans-1,3-Dichloropropene	27	U	ppb (v/v)
1,1,2-Trichloroethane	27	U	ppb (v/v)
Tetrachloroethene	58		ppb (v/v)
1,2-Dibromoethane (EDB)	130	U	ppb (v/v)
Chlorobenzene	130	U	ppb (v/v)
Ethylbenzene	130	U	ppb (v/v)
m- & p-Xylene(s)	270	U	ppb (v/v)
o-Xylene	130	U	ppb (v/v)
Styrene	130	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	130	U	ppb (v/v)
1,3,5-Trimethylbenzene	130	U	ppb (v/v)
1,2,4-Trimethylbenzene	130	U	ppb (v/v)
1,3-Dichlorobenzene	130	U	ppb (v/v)
1,4-Dichlorobenzene	130	U	ppb (v/v)
1,2-Dichlorobenzene	130	U	ppb (v/v)
1,2-Dichloroethane-d4	108	%	
Toluene-d8	103	%	
Bromofluorobenzene	94	%	

U = Compound analyzed but not detected.

COPY



## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW58-019 (CAN# 9610BB)  
 LAB ID: 133294-0010-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 29 JUL 98  
 Analyzed: 03 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	130	U	ppb (v/v)
Chloromethane	130	U	ppb (v/v)
Vinyl chloride	27	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	130	U	ppb (v/v)
Bromomethane	130	U	ppb (v/v)
Chloroethane	130	U	ppb (v/v)
1,1-Dichloroethene	27	U	ppb (v/v)
Trichlorofluoromethane	130	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	130	U	ppb (v/v)
Methylene chloride	27	U	ppb (v/v)
1,1-Dichloroethane	27	U	ppb (v/v)
cis-1,2-Dichloroethene	27	U	ppb (v/v)
Chloroform	130	U	ppb (v/v)
1,1,1-Trichloroethane	27	U	ppb (v/v)
Carbon tetrachloride	27	U	ppb (v/v)
Benzene	27	U	ppb (v/v)
1,2-Dichloroethane	27	U	ppb (v/v)
Trichloroethene	3500		ppb (v/v)
1,2-Dichloropropane	27	U	ppb (v/v)
cis-1,3-Dichloropropene	27	U	ppb (v/v)
Toluene	130	U	ppb (v/v)
trans-1,3-Dichloropropene	27	U	ppb (v/v)
1,1,2-Trichloroethane	27	U	ppb (v/v)
Tetrachloroethene	110		ppb (v/v)
1,2-Dibromoethane (EDB)	130	U	ppb (v/v)
Chlorobenzene	130	U	ppb (v/v)
Ethylbenzene	130	U	ppb (v/v)
m- & p-Xylene(s)	270	U	ppb (v/v)
o-Xylene	130	U	ppb (v/v)
Styrene	130	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	130	U	ppb (v/v)
1,3,5-Trimethylbenzene	130	U	ppb (v/v)
1,2,4-Trimethylbenzene	130	U	ppb (v/v)
1,3-Dichlorobenzene	130	U	ppb (v/v)
1,4-Dichlorobenzene	130	U	ppb (v/v)
1,2-Dichlorobenzene	130	U	ppb (v/v)
1,2-Dichloroethane-d4	109	%	
Toluene-d8	101	%	
Bromofluorobenzene	90	%	

U = Compound analyzed but not detected.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW58-029 (CAN# A-126)  
 LAB ID: 133294-0011-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98      Received: 29 JUL 98  
 Prepared: N/A      Analyzed: 03 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	130	U	ppb (v/v)
Chloromethane	130	U	ppb (v/v)
Vinyl chloride	27	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	130	U	ppb (v/v)
Bromomethane	130	U	ppb (v/v)
Chloroethane	130	U	ppb (v/v)
1,1-Dichloroethene	27	U	ppb (v/v)
Trichlorofluoromethane	130	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	130	U	ppb (v/v)
Methylene chloride	27	U	ppb (v/v)
1,1-Dichloroethane	27	U	ppb (v/v)
cis-1,2-Dichloroethene	27	U	ppb (v/v)
Chloroform	130	U	ppb (v/v)
1,1,1-Trichloroethane	27	U	ppb (v/v)
Carbon tetrachloride	27	U	ppb (v/v)
Benzene	27	U	ppb (v/v)
1,2-Dichloroethane	27	U	ppb (v/v)
Trichloroethene	3100		ppb (v/v)
1,2-Dichloropropane	27	U	ppb (v/v)
cis-1,3-Dichloropropene	27	U	ppb (v/v)
Toluene	130	U	ppb (v/v)
trans-1,3-Dichloropropene	27	U	ppb (v/v)
1,1,2-Trichloroethane	27	U	ppb (v/v)
Tetrachloroethene	110		ppb (v/v)
1,2-Dibromoethane (EDB)	130	U	ppb (v/v)
Chlorobenzene	130	U	ppb (v/v)
Ethylbenzene	130	U	ppb (v/v)
m- & p-Xylene(s)	270	U	ppb (v/v)
o-Xylene	130	U	ppb (v/v)
Styrene	130	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	130	U	ppb (v/v)
1,3,5-Trimethylbenzene	130	U	ppb (v/v)
1,2,4-Trimethylbenzene	130	U	ppb (v/v)
1,3-Dichlorobenzene	130	U	ppb (v/v)
1,4-Dichlorobenzene	130	U	ppb (v/v)
1,2-Dichlorobenzene	130	U	ppb (v/v)
1,2-Dichloroethane-d4	108	%	
Toluene-d8	105	%	
Bromofluorobenzene	90	%	

U = Compound analyzed but not detected.

**COPY****Quanterra**Environmental  
Services

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
Client ID: VW56-328 (CAN# 04410)  
LAB ID: 133294-0012-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 01 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	22	U	ppb (v/v)
Chloromethane	22	U	ppb (v/v)
Vinyl chloride	4.4	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	22	U	ppb (v/v)
Bromomethane	22	U	ppb (v/v)
Chloroethane	22	U	ppb (v/v)
1,1-Dichloroethene	4.4	U	ppb (v/v)
Trichlorofluoromethane	22	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	22	U	ppb (v/v)
Methylene chloride	8.2		ppb (v/v)
1,1-Dichloroethane	8.4		ppb (v/v)
cis-1,2-Dichloroethene	6.5		ppb (v/v)
Chloroform	23		ppb (v/v)
1,1,1-Trichloroethane	4.4	U	ppb (v/v)
Carbon tetrachloride	4.4	U	ppb (v/v)
Benzene	4.4	U	ppb (v/v)
1,2-Dichloroethane	4.4	U	ppb (v/v)
Trichloroethene	720		ppb (v/v)
1,2-Dichloropropane	4.4	U	ppb (v/v)
cis-1,3-Dichloropropene	4.4	U	ppb (v/v)
Toluene	22	U	ppb (v/v)
trans-1,3-Dichloropropene	4.4	U	ppb (v/v)
1,1,2-Trichloroethane	4.4	U	ppb (v/v)
Tetrachloroethene	47		ppb (v/v)
1,2-Dibromoethane (EDB)	22	U	ppb (v/v)
Chlorobenzene	22	U	ppb (v/v)
Ethylbenzene	22	U	ppb (v/v)
m- & p-Xylene(s)	44	U	ppb (v/v)
o-Xylene	22	U	ppb (v/v)
Styrene	22	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	22	U	ppb (v/v)
1,3,5-Trimethylbenzene	22	U	ppb (v/v)
1,2,4-Trimethylbenzene	22	U	ppb (v/v)
1,3-Dichlorobenzene	22	U	ppb (v/v)
1,4-Dichlorobenzene	22	U	ppb (v/v)
1,2-Dichlorobenzene	22	U	ppb (v/v)
1,2-Dichloroethane-d4	115	%	
Toluene-d8	106	%	
Bromofluorobenzene	108	%	

U = Compound analyzed but not detected.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW59-007 (CAN# 12827)  
 LAB ID: 133294-0013-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98      Received: 29 JUL 98  
 Prepared: N/A      Analyzed: 01 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	1.0	U	ppb (v/v)
Chloromethane	1.0	U	ppb (v/v)
Vinyl chloride	0.20	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.0	U	ppb (v/v)
Bromomethane	1.0	U	ppb (v/v)
Chloroethane	1.0	U	ppb (v/v)
1,1-Dichloroethene	0.20	U	ppb (v/v)
Trichlorofluoromethane	1.0	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	ppb (v/v)
Methylene chloride	1.4	U	ppb (v/v)
1,1-Dichloroethane	0.20	U	ppb (v/v)
cis-1,2-Dichloroethene	0.78	U	ppb (v/v)
Chloroform	1.0	U	ppb (v/v)
1,1,1-Trichloroethane	0.20	U	ppb (v/v)
Carbon tetrachloride	0.20	U	ppb (v/v)
Benzene	4.1	U	ppb (v/v)
1,2-Dichloroethane	0.20	U	ppb (v/v)
Trichloroethene	0.46	U	ppb (v/v)
1,2-Dichloropropane	0.20	U	ppb (v/v)
cis-1,3-Dichloropropene	0.20	U	ppb (v/v)
Toluene	2.5	U	ppb (v/v)
trans-1,3-Dichloropropene	0.20	U	ppb (v/v)
1,1,2-Trichloroethane	0.20	U	ppb (v/v)
Tetrachloroethene	15	U	ppb (v/v)
1,2-Dibromoethane (EDB)	1.0	U	ppb (v/v)
Chlorobenzene	1.0	U	ppb (v/v)
Ethylbenzene	1.0	U	ppb (v/v)
m- & p-Xylene(s)	2.0	U	ppb (v/v)
o-Xylene	1.0	U	ppb (v/v)
Styrene	1.0	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	1.0	U	ppb (v/v)
1,3,5-Trimethylbenzene	1.0	U	ppb (v/v)
1,2,4-Trimethylbenzene	1.0	U	ppb (v/v)
1,3-Dichlorobenzene	1.0	U	ppb (v/v)
1,4-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichloroethane-d4	102	%	
Toluene-d8	104	%	
Bromofluorobenzene	94	%	

U = Compound analyzed but not detected.

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## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
Client ID: VW59-307 (CAN# 93246)  
LAB ID: 133294-0014-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 01 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	1.0	U	ppb (v/v)
Chloromethane	1.0	U	ppb (v/v)
Vinyl chloride	0.20	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.0	U	ppb (v/v)
Bromomethane	1.0	U	ppb (v/v)
Chloroethane	1.0	U	ppb (v/v)
1,1-Dichloroethene	0.20	U	ppb (v/v)
Trichlorofluoromethane	1.0	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	ppb (v/v)
Methylene chloride	1.7		ppb (v/v)
1,1-Dichloroethane	0.20	U	ppb (v/v)
cis-1,2-Dichloroethene	0.87		ppb (v/v)
Chloroform	1.0	U	ppb (v/v)
1,1,1-Trichloroethane	0.20	U	ppb (v/v)
Carbon tetrachloride	0.20	U	ppb (v/v)
Benzene	4.3		ppb (v/v)
1,2-Dichloroethane	0.20	U	ppb (v/v)
Trichloroethene	0.43		ppb (v/v)
1,2-Dichloropropane	0.20	U	ppb (v/v)
cis-1,3-Dichloropropene	0.20	U	ppb (v/v)
Toluene	2.3		ppb (v/v)
trans-1,3-Dichloropropene	0.20	U	ppb (v/v)
1,1,2-Trichloroethane	0.20	U	ppb (v/v)
Tetrachloroethene	16		ppb (v/v)
1,2-Dibromoethane (EDB)	1.0	U	ppb (v/v)
Chlorobenzene	1.0	U	ppb (v/v)
Ethylbenzene	1.0	U	ppb (v/v)
m- & p-Xylene(s)	2.0	U	ppb (v/v)
o-Xylene	1.0	U	ppb (v/v)
Styrene	1.0	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	1.0	U	ppb (v/v)
1,3,5-Trimethylbenzene	1.0	U	ppb (v/v)
1,2,4-Trimethylbenzene	1.0	U	ppb (v/v)
1,3-Dichlorobenzene	1.0	U	ppb (v/v)
1,4-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichloroethane-d4	110	%	
Toluene-d8	108	%	
Bromofluorobenzene	111	%	

U = Compound analyzed but not detected.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW59-018 (CAN# 92043)  
 LAB ID: 133294-0015-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 29 JUL 98  
 Analyzed: 01 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	5.9	U	ppb (v/v)
Chloromethane	5.9	U	ppb (v/v)
Vinyl chloride	1.2	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.9	U	ppb (v/v)
Bromomethane	5.9	U	ppb (v/v)
Chloroethane	5.9	U	ppb (v/v)
1,1-Dichloroethene	1.2	U	ppb (v/v)
Trichlorofluoromethane	5.9	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	5.9	U	ppb (v/v)
Methylene chloride	1.2	U	ppb (v/v)
1,1-Dichloroethane	1.2	U	ppb (v/v)
cis-1,2-Dichloroethene	1.2	U	ppb (v/v)
Chloroform	5.9	U	ppb (v/v)
1,1,1-Trichloroethane	1.2	U	ppb (v/v)
Carbon tetrachloride	1.2	U	ppb (v/v)
Benzene	1.2	U	ppb (v/v)
1,2-Dichloroethane	1.2	U	ppb (v/v)
Trichloroethene	13		ppb (v/v)
1,2-Dichloropropane	1.2	U	ppb (v/v)
cis-1,3-Dichloropropene	1.2	U	ppb (v/v)
Toluene	5.9	U	ppb (v/v)
trans-1,3-Dichloropropene	1.2	U	ppb (v/v)
1,1,2-Trichloroethane	1.2	U	ppb (v/v)
Tetrachloroethene	120		ppb (v/v)
1,2-Dibromoethane (EDB)	5.9	U	ppb (v/v)
Chlorobenzene	5.9	U	ppb (v/v)
Ethylbenzene	5.9	U	ppb (v/v)
m- & p-Xylene(s)	12	U	ppb (v/v)
o-Xylene	5.9	U	ppb (v/v)
Styrene	5.9	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	5.9	U	ppb (v/v)
1,3,5-Trimethylbenzene	5.9	U	ppb (v/v)
1,2,4-Trimethylbenzene	5.9	U	ppb (v/v)
1,3-Dichlorobenzene	5.9	U	ppb (v/v)
1,4-Dichlorobenzene	5.9	U	ppb (v/v)
1,2-Dichlorobenzene	5.9	U	ppb (v/v)
1,2-Dichloroethane-d4	110	%	
Toluene-d8	103	%	
Bromofluorobenzene	93	%	

U = Compound analyzed but not detected.

**COPY****Quanterra**Environmental  
Services

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
Client ID: VW59-028 (CAN# A-280)  
LAB ID: 133294-0016-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 03 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	4.4	U	ppb (v/v)
Chloromethane	4.4	U	ppb (v/v)
Vinyl chloride	0.87	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	4.4	U	ppb (v/v)
Bromomethane	4.4	U	ppb (v/v)
Chloroethane	4.4	U	ppb (v/v)
1,1-Dichloroethene	0.87	U	ppb (v/v)
Trichlorofluoromethane	4.4	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	4.4	U	ppb (v/v)
Methylene chloride	0.87	U	ppb (v/v)
1,1-Dichloroethane	0.87	U	ppb (v/v)
cis-1,2-Dichloroethene	0.87	U	ppb (v/v)
Chloroform	4.4	U	ppb (v/v)
1,1,1-Trichloroethane	0.87	U	ppb (v/v)
Carbon tetrachloride	0.87	U	ppb (v/v)
Benzene	0.87	U	ppb (v/v)
1,2-Dichloroethane	0.87	U	ppb (v/v)
Trichloroethene	1.2		ppb (v/v)
1,2-Dichloropropane	0.87	U	ppb (v/v)
cis-1,3-Dichloropropene	0.87	U	ppb (v/v)
Toluene	4.4	U	ppb (v/v)
trans-1,3-Dichloropropene	0.87	U	ppb (v/v)
1,1,2-Trichloroethane	0.87	U	ppb (v/v)
Tetrachloroethene	44		ppb (v/v)
1,2-Dibromoethane (EDB)	4.4	U	ppb (v/v)
Chlorobenzene	4.4	U	ppb (v/v)
Ethylbenzene	4.4	U	ppb (v/v)
m- & p-Xylene(s)	8.7	U	ppb (v/v)
o-Xylene	4.4	U	ppb (v/v)
Styrene	4.4	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	4.4	U	ppb (v/v)
1,3,5-Trimethylbenzene	4.4	U	ppb (v/v)
1,2,4-Trimethylbenzene	4.4	U	ppb (v/v)
1,3-Dichlorobenzene	4.4	U	ppb (v/v)
1,4-Dichlorobenzene	4.4	U	ppb (v/v)
1,2-Dichlorobenzene	4.4	U	ppb (v/v)
1,2-Dichloroethane-d4	108	%	
Toluene-d8	104	%	
Bromofluorobenzene	98	%	

U = Compound analyzed but not detected.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: B1  
 LAB ID: 133294-0017-SA  
 Matrix: AIR  
 Authorized: 29 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A  
 Received: 29 JUL 98  
 Analyzed: 01 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	1.0	U	ppb (v/v)
Chloromethane	1.0	U	ppb (v/v)
Vinyl chloride	0.20	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.0	U	ppb (v/v)
Bromomethane	1.0	U	ppb (v/v)
Chloroethane	1.0	U	ppb (v/v)
1,1-Dichloroethene	0.20	U	ppb (v/v)
Trichlorofluoromethane	1.0	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	ppb (v/v)
Methylene chloride	0.20	U	ppb (v/v)
1,1-Dichloroethane	0.20	U	ppb (v/v)
cis-1,2-Dichloroethene	0.20	U	ppb (v/v)
Chloroform	1.0	U	ppb (v/v)
1,1,1-Trichloroethane	0.20	U	ppb (v/v)
Carbon tetrachloride	0.20	U	ppb (v/v)
Benzene	0.20	U	ppb (v/v)
1,2-Dichloroethane	0.20	U	ppb (v/v)
Trichloroethene	0.20	U	ppb (v/v)
1,2-Dichloropropane	0.20	U	ppb (v/v)
cis-1,3-Dichloropropene	0.20	U	ppb (v/v)
Toluene	1.0	U	ppb (v/v)
trans-1,3-Dichloropropene	0.20	U	ppb (v/v)
1,1,2-Trichloroethane	0.20	U	ppb (v/v)
Tetrachloroethene	0.20	U	ppb (v/v)
1,2-Dibromoethane (EDB)	1.0	U	ppb (v/v)
Chlorobenzene	1.0	U	ppb (v/v)
Ethylbenzene	1.0	U	ppb (v/v)
m- & p-Xylene(s)	2.0	U	ppb (v/v)
o-Xylene	1.0	U	ppb (v/v)
Styrene	1.0	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	1.0	U	ppb (v/v)
1,3,5-Trimethylbenzene	1.0	U	ppb (v/v)
1,2,4-Trimethylbenzene	1.0	U	ppb (v/v)
1,3-Dichlorobenzene	1.0	U	ppb (v/v)
1,4-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichloroethane-d4	115	%	
Toluene-d8	108	%	
Bromofluorobenzene	98	%	

U = Compound analyzed but not detected.

**COPY**Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID AnalysisEnvironmental  
Services

Client Name: USEPA - Region IX  
Client ID: VW55-029 (CAN# 9698B)  
LAB ID: 133294-0001-SA  
Matrix: AIR                      Sampled: 29 JUL 98              Received: 29 JUL 98  
Authorized: 29 JUL 98              Prepared: N/A              Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	18000		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Environmental  
ServicesModified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW55-018 (CAN# 12634)  
LAB ID: 133294-0002-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98      Received: 29 JUL 98  
Prepared: N/A      Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	30000		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	340		ppm (v/v)

U = Compound analyzed but not detected.

**COPY**

Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW57-007 (CAN# 93223)  
LAB ID: 133294-0003-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	240		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	180	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Environmental  
ServicesModified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW57-018 (CAN# 93092)  
LAB ID: 133294-0004-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98      Received: 29 JUL 98  
Prepared: N/A      Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	1700		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY****Quanterra**Environmental  
ServicesModified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW57-026 (CAN# 93006)  
LAB ID: 133294-0005-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	2700		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.



Environmental  
Services

Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW56-008 (CAN# 93114)  
LAB ID: 133294-0006-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	24		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	180	U	ppm (v/v)

U = Compound analyzed but not detected.

COPY



Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW56-017 (CAN# 12888)  
LAB ID: 133294-0007-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	17	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Environmental  
ServicesModified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW56-028 (CAN# A-260)  
LAB ID: 133294-0008-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	17	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

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*Environmental  
Services*

Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW58-008 (CAN# 11406)  
LAB ID: 133294-0009-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	18	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	180	U	ppm (v/v)

U = Compound analyzed but not detected.

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Environmental  
Services

Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW58-019 (CAN# 9610BB)  
LAB ID: 133294-0010-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	18	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	180	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID AnalysisEnvironmental  
Services

Client Name: USEPA - Region IX  
Client ID: VW58-029 (CAN# A-126)  
LAB ID: 133294-0011-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	18	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	180	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID AnalysisEnvironmental  
Services

Client Name: USEPA - Region IX  
Client ID: VW56-328 (CAN# 04410)  
LAB ID: 133294-0012-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98      Received: 29 JUL 98  
Prepared: N/A      Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	18	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	180	U	ppm (v/v)

U = Compound analyzed but not detected.

COPY

**Quanterra**

Environmental  
Services

Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW59-007 (CAN# 12827)  
LAB ID: 133294-0013-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	18	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	180	U	ppm (v/v)

U = Compound analyzed but not detected.

COPY



Environmental  
Services

Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW59-307 (CAN# 93246)  
LAB ID: 133294-0014-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 04 AUG 98

Parameter	Result	Qualifier	Units
Methane	18	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	180	U	ppm (v/v)

U = Compound analyzed but not detected.

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 **Quanterra**

*Environmental  
Services*

Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW59-018 (CAN# 92043)  
LAB ID: 133294-0015-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 29 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	18	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	180	U	ppm (v/v)

U = Compound analyzed but not detected.

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Environmental  
ServicesModified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW59-028 (CAN# A-280)  
LAB ID: 133294-0016-SA  
Matrix: AIR  
Authorized: 29 JUL 98

Sampled: 29 JUL 98      Received: 29 JUL 98  
Prepared: N/A      Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	17	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY****Quanterra**Environmental  
ServicesModified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX

Client ID: B1

LAB ID: 133294-0017-SA

Matrix: AIR

Authorized: 29 JUL 98

Sampled: 29 JUL 98

Prepared: N/A

Received: 29 JUL 98

Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	10	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	100	U	ppm (v/v)

U = Compound analyzed but not detected.

**U.S. EPA REGION 9**  
**LABORATORY QC SUMMARY REPORT**

LABORATORY: Quanterra SAS#: SDG#: 133343

SUBMITTED BY: \_\_\_\_\_ # SAMPLES: 16

TITLE: WDI Superfund Site MATRIX: Air

ANALYSIS: VOLATILE ORGANIC COMPOUNDS DATE: 10/26/98  
IN AIR (SUMMA® CANISTERS)  
FOLLOWING CONTRACT LABORATORY  
PROGRAM (CLP) STATEMENT OF WORK  
(SOW) FOR ORGANICS ANALYSIS (OLMO1.9)

**QC SUMMARY TABLE**

QC PARAMETER	QC LIMITS	FREQUENCY
Laboratory method blank (concentration of target analytes)	<CRQL = ?	each 12 hour period during sample analysis
Initial and continuing calibration (4 - bromofluorobenzene tuning)	as per requirements specified in Exhibit D, Section III, Part C, Item 14.5, and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92)	beginning of each 12 hour period during sample analysis
Initial calibration (%RSD)	as per requirements specified in Exhibit D, Section III, Part C, Item 14.5, and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92)	as needed
Initial calibration (minimum relative response factor ([RRF]))	as per requirements specified in Exhibit D, Section III, Part C, Item 14.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92)	as needed

QC PARAMETER	QC LIMITS	FREQUENCY
Continuing calibration (%D)	as per requirements specified in Exhibit D, Section III, Part C, Item 15.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92)	every 12 hours during sample analysis
Continuing calibration (minimum RRF)	as per requirements specified in Exhibit D, Section III, Part C, Item 15.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92)	every 12 hours during sample analysis
CRQL standard (%R)	65 - 135%	once every 12 hours during sample analysis
System monitoring compounds (%R)	as per requirements listed in Table 6 of Exhibit D of CLP SOW (OLMO1.9)	all standards, blanks, environmental samples, and QC samples
Internal standards (areas, retention times)	as per requirements listed in Exhibit D, Section 7.4.8, of CLP SOW (OLMO1.9)	all blanks, environmental samples, and QC samples
NIST audit gas sample (%R)	50 - 150%	once every 12 hours during sample analysis
BS/BSD (%R)	as per requirements listed in Table 7 of Exhibit D of CLP SOW (OLMO1.9)	1 per SDG
BS/BSD (RPD)	as per requirements listed in Table 7 of Exhibit D of CLP SOW (OLMO1.9)	1 per SDG

1. Was the pressure of all samples checked upon receipt and reported? **YES** **NO**
- a. If no, list which samples were not checked for initial pressure?

2. Were all samples analyzed within the contract required holding time of 12 days from the date of sample receipt by the laboratory? **YES** NO
- a. If no, list the samples that were analyzed outside of the holding time.  
\_\_\_\_\_
- b. How many days outside of the holding time were these samples analyzed?  
\_\_\_\_\_
3. Were all samples analyzed within the technical holding time of 14 days from the date of collection? **YES** NO
- a. If no, list the samples that were analyzed outside of the holding time.  
\_\_\_\_\_
- b. How many days outside of the holding time were these samples analyzed?  
\_\_\_\_\_
4. Were all samples received intact and in good condition? **YES** NO
5. Was the data package sent within 35 days from the date of receipt of the last sample in the SDG? YES **NO**
- A. If no, how many days late was the data package sent?  
12 days
6. Were the protocols outlined in the Contract Laboratory Program (CLP) Statement of Work (SOW) for Organics Analysis (OLMO1.9) followed for the analysis of these samples? **YES** NO

- a. If no, specify which method was used.

Also, Volatile Organic Compounds by USEPA Method TO-15 and Methane and Total Nonmethane by South Coast Air Quality Management District (SCAQMD)

- b. If no, why was this method used and who authorized its use?

+ the letter dated June 16, 1998 from Quanterra to CDM Federal.

- c. Was the approved method followed  
without modifications or deviations? **YES** NO
- d. If no, specify what the modification or deviations were and who approved them.

---

7. Was a BFB tune performed every 12 hours during sample analysis? **YES** NO

- a. If no, why not? \_\_\_\_\_

8. Were the ion abundance criteria specified in Table 1 of Exhibit D, Section 6.4.4, of the CLP SOW (OLMO1.9) met for all BFB tunes that were performed? **YES** NO

- a. If no, why not? \_\_\_\_\_

9. Was a 5-point initial calibration curve analyzed prior to sample analyses? **YES** NO

- a. If yes, when? \_\_\_\_\_

- b. If no, why not? \_\_\_\_\_

10. Did the initial calibration standards contain all target analytes at the concentrations specified in Table D-1 of Exhibit D, Section II, Part B, Item 7.5 of the Superfund Analytical Methods for Low Concentration Water for Organics Analysis (SAMLCO, 10-92)? **YES** NO

- a. If no, why not? \_\_\_\_\_
11. Did the initial calibration curve meet the QC requirements for %RSD specified in Exhibit D, Section III, Part C, Item 14.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92) for all target compounds?
- a. If no, specify the analyte(s) and %RSD(s) that were outside of the QC limits.
- Chloroethane - 35.25% - No qualifications as all chloroethane results are nondetect.
12. Was a continuing calibration standard analyzed during every 12-hour time period in which samples were analyzed?
- a. If no, why not? \_\_\_\_\_
13. Were percent differences (%D) for target compounds in the continuing calibration standards within the QC requirement specified in Exhibit D, Section III, Part C, Item 15.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92) for all target compounds?
- a. If no, specify the analyte(s) and %D(s) that were outside of the QC limits.
- Aug. 5 1998 - 10:25 - Chloroethane - 36.2%  
Aug. 5, 1998 - 23:51 - Chloroethane - 38.9%
- Chloroethane results for samples analyzed on August 5, which were all nondetect, were estimated "UJ."
- VW60-007    VW60-029    VW63-008    VW61-008  
VW60-018    VW62-007    VW63-028

14. Were the RRFs for analytes in the initial calibrations within the requirements specified in Exhibit D, Section III, Part C, Item 14.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92) for all target compounds?
- a. If no, why not? \_\_\_\_\_
15. Were the RRFs for analytes in the continuing calibrations within the requirements specified in Exhibit D, Section III, Part C, Item 15.5 and Exhibit D, Section V, Table D-3 of the SAMLCO (10-92) for all target compounds?
- a. If no, why not? \_\_\_\_\_
16. Was a CRQL standard run every 12 hours during sample analysis? Reported as a low level QC Check Standard.
- a. If no, at what frequency were CRQL standards analyzed?
17. Were CRQL standard recoveries within the QC requirements of 65-135%?
- a. If no, list the noncompliant recoveries and the affected samples.
- Aug. 4, 1998** Chloroethane - 59.6%  
Benzene - 149.3%  
1, 2 - dichloroethane - 140.5%  
1, 2 - dichloropropane - 140.4%
- No action - no samples analyzed on August 4, 1998.
- Aug. 5, 1998** m&p xylene - 155.1%.
- The m&p xylene results for the following samples were estimated "J/UJ":

VW60-007, VW60-018, VW60-029, VW62-007, VW63-008, VW61-008,  
VW63-028

18. Were the area counts of all internal standards within - 50% to +100% of the area count for each respective internal standard in the associated continuing calibration? **YES** **NO**
- a. If no, specify the sample(s) and internal standard(s) that were outside of the QC limits.
- 
19. Were the retention times of all the internal standards within  $\pm$  30 seconds of the retention time for each respective internal standard in the associated continuing calibration? **YES** **NO**
- a. If no, specify the sample(s) and internal standard(s) that were outside of the QC limits.
- 
20. Were laboratory method blanks analyzed at a minimum frequency of 1 per each 12 hour period during sample analysis? **YES** **NO**
- a. If no, at what frequency were method blank analyses performed.
- 
21. Were laboratory method blanks free of contamination at concentrations exceeding the CRQL for all analytes? **YES** **NO**
- a. If no, specify contaminants(s) and at what level(s) it was (they were) present.
- 
-

22. Were recoveries for system monitoring compounds within the requirements specified in Table 6 of Exhibit D of the CLP SOW (OLMO1.9) for all samples? **YES** **NO**

a. If no, list the recoveries and the associated samples that were above this range.

4-Bromofluorobenzene was outside of appropriate criteria for the following samples:

VW62-018 (237), VW54-012 (123)

VW62-029 (203), VW62-029-Dil. (362)

VW54-020 (144), VW54-020-Dil. (162)

VW54-030 (152), VW54-030-Dil. (222)

All positive results for these samples were estimated as "J".

b. Were samples with noncompliant recoveries reanalyzed? **YES** **NO**

If no, why not? \_\_\_\_\_

23. Was a National Institute of Standards and Technology (NIST) audit gas sample analyzed in each 12-hour time period during which samples were analyzed? **YES** **NO**

a. If no, at what frequency were NIST audit gas sample analyses performed.

Laboratory does not run them.

24. Were NIST gas sample analyte recoveries within the QC requirement of 50-150% **YES** **NO**

a. If no, specify the analyte(s) and %R(s) that were outside of the QC limits.

25. Were BS/BSD analyses performed at a minimum frequency of 1 per SDG? **YES** **NO**

a. If no, why not? \_\_\_\_\_

26. Were BS/BSD recoveries within requirements specified in Table 7 of Exhibit D of the CLP SOW (OLMO1.9) for all spike compounds? **YES** NO
- a. If no, specify the analyte(s) and %R(s) that were outside of the QC limits.
- 
27. Were the relative percent differences (RPDs) between BS/BSD recoveries within the requirements specified in Table 7 of Exhibit D of the CLP SOW (OLMO1.9) for all spike compounds? **YES** NO
- a. If no, specify the analyte(s) and RPD(s) that were outside of the QC limits.
- 
28. Were the CRQLs met for all analytes? **YES** NO
- a. If no, why not? \_\_\_\_\_
29. Was it possible to analyze all target compounds within the range of the initial calibration curve? **YES** **NO**
- a. If no, were samples containing target analytes at concentrations exceeding the initial calibration range reanalyzed using a smaller initial sample volume as required by Section 8.b.6 of the SAS Client Request Form?
- b. If yes, list these samples, the analytes above range, and the analyte concentration.
- 
-

- c. If no, explain why not and list the affected samples.

VW62-029, VW54-030

VW61-019 - Vinyl Chloride 400 ppb and 340 ppb

VW54-012, VW54-020 - All reporting limits elevated due to high levels of non-target analytes.

30. Field Duplicate Precision

Field duplicate pair VW61-030 and VW61-330 was included in this SDG. The RPD results were within the required control limits.

31. Laboratory Duplicate Precision (TO15-Method)

RPD results for the laboratory duplicate sample were within appropriate control limits.

32. Spike Duplicate

All % R and RPD results were within appropriate control limits.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW54-012 9724B  
 LAB ID: 133343-0015-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 08 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	5.8	U1	ppb (v/v)
Chloromethane	5.8	U	ppb (v/v)
Vinyl chloride	1.2	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	5.8	U	ppb (v/v)
Bromomethane	5.8	U	ppb (v/v)
Chloroethane	5.8	U	ppb (v/v)
1,1-Dichloroethene	1.2	U	ppb (v/v)
Trichlorodifluoromethane	5.8	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	5.8	U	ppb (v/v)
Methylene chloride	1.8	J	ppb (v/v)
1,1-Dichloroethane	1.2	U	ppb (v/v)
cis-1,2-Dichloroethene	1.2	U	ppb (v/v)
Chloroform	5.8	U	ppb (v/v)
1,1,1-Trichloroethane	1.2	U	ppb (v/v)
Carbon tetrachloride	1.2	U	ppb (v/v)
Benzene	2.6	J	ppb (v/v)
1,2-Dichloroethane	1.2	U	ppb (v/v)
Trichloroethene	1.2	U	ppb (v/v)
1,2-Dichloropropane	1.2	U	ppb (v/v)
cis-1,3-Dichloropropene	1.2	U	ppb (v/v)
Toluene	7.6	J	ppb (v/v)
trans-1,3-Dichloropropene	1.2	U	ppb (v/v)
1,1,2-Trichloroethane	1.2	U	ppb (v/v)
Tetrachloroethene	1.2	U	ppb (v/v)
1,2-Dibromoethane (EDB)	5.8	U	ppb (v/v)
Chlorobenzene	5.8	U	ppb (v/v)
Ethylbenzene	5.8	U	ppb (v/v)
m- & p-Xylene(s)	12	U	ppb (v/v)
o-Xylene	5.8	U	ppb (v/v)
Styrene	5.8	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	5.8	U	ppb (v/v)
1,3,5-Trimethylbenzene	5.8	U	ppb (v/v)
1,2,4-Trimethylbenzene	5.8	U	ppb (v/v)
1,3-Dichlorobenzene	5.8	U	ppb (v/v)
1,4-Dichlorobenzene	5.8	U	ppb (v/v)
1,2-Dichlorobenzene	5.8	U	ppb (v/v)
1,2-Dichloroethane-d4	101	%	
Toluene-d8	106	%	
Bromofluorobenzene	123	I	%

U = Compound analyzed but not detected.

1 = All reporting limits elevated due to high levels of non-target analytes.

I = Surrogate recovery outside of limits due to sample matrix interference.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW54-012 9724B  
 LAB ID: 133343-0015-DL  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 06 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	17	U	ppb (v/v)
Chloromethane	17	U	ppb (v/v)
Vinyl chloride	3.5	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	17	U	ppb (v/v)
Bromomethane	17	U	ppb (v/v)
Chloroethane	17	U	ppb (v/v)
1,1-Dichloroethene	3.5	U	ppb (v/v)
Trichlorofluoromethane	17	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	17	U	ppb (v/v)
Methylene chloride	3.5	U	ppb (v/v)
1,1-Dichloroethane	3.5	U	ppb (v/v)
cis-1,2-Dichloroethene	3.5	U	ppb (v/v)
Chloroform	17	U	ppb (v/v)
1,1,1-Trichloroethane	3.5	U	ppb (v/v)
Carbon tetrachloride	3.5	U	ppb (v/v)
Benzene	3.9		ppb (v/v)
1,2-Dichloroethane	3.5	U	ppb (v/v)
Trichloroethene	3.5	U	ppb (v/v)
1,2-Dichloropropane	3.5	U	ppb (v/v)
cis-1,3-Dichloropropene	3.5	U	ppb (v/v)
Toluene	17	U	ppb (v/v)
trans-1,3-Dichloropropene	3.5	U	ppb (v/v)
1,1,2-Trichloroethane	3.5	U	ppb (v/v)
Tetrachloroethene	3.5	U	ppb (v/v)
1,2-Dibromoethane (EDB)	17	U	ppb (v/v)
Chlorobenzene	17	U	ppb (v/v)
Ethylbenzene	17	U	ppb (v/v)
m- & p-Xylene(s)	35	U	ppb (v/v)
o-Xylene	17	U	ppb (v/v)
Styrene	17	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	17	U	ppb (v/v)
1,3,5-Trimethylbenzene	17	U	ppb (v/v)
1,2,4-Trimethylbenzene	17	U	ppb (v/v)
1,3-Dichlorobenzene	17	U	ppb (v/v)
1,4-Dichlorobenzene	17	U	ppb (v/v)
1,2-Dichlorobenzene	17	U	ppb (v/v)
1,2-Dichloroethane-d4	98	%	
Toluene-d8	104	%	
Bromofluorobenzene	95	%	

U = Compound analyzed but not detected.

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Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW54-020 92018  
 LAB ID: 133343-0016-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 06 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	1.0	U	ppb (v/v)
Chloromethane	1.0	U	ppb (v/v)
Vinyl chloride	2.7	J	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.0	U	ppb (v/v)
Bromomethane	1.0	U	ppb (v/v)
Chloroethane	1.0	U	ppb (v/v)
1,1-Dichloroethene	2.5	J	ppb (v/v)
Trichlorofluoromethane	1.0	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	ppb (v/v)
Methylene chloride	0.20	U	ppb (v/v)
1,1-Dichloroethane	0.25	J	ppb (v/v)
cis-1,2-Dichloroethene	7.3	J	ppb (v/v)
Chloroform	1.0	U	ppb (v/v)
1,1,1-Trichloroethane	0.20	U	ppb (v/v)
Carbon tetrachloride	0.20	U	ppb (v/v)
Benzene	0.99	J	ppb (v/v)
1,2-Dichloroethane	0.20	U	ppb (v/v)
Trichloroethene	4.9	J	ppb (v/v)
1,2-Dichloropropane	0.20	U	ppb (v/v)
cis-1,3-Dichloropropene	0.20	U	ppb (v/v)
Toluene	2.5	J	ppb (v/v)
trans-1,3-Dichloropropene	0.20	U	ppb (v/v)
1,1,2-Trichloroethane	0.20	U	ppb (v/v)
Tetrachloroethene	0.81	J	ppb (v/v)
1,2-Dibromoethane (EDB)	1.0	U	ppb (v/v)
Chlorobenzene	1.0	U	ppb (v/v)
Ethylbenzene	1.0	U	ppb (v/v)
m- & p-Xylene(s)	2.0	U	ppb (v/v)
o-Xylene	1.0	U	ppb (v/v)
Styrene	1.0	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	1.0	U	ppb (v/v)
1,3,5-Trimethylbenzene	1.0	U	ppb (v/v)
1,2,4-Trimethylbenzene	1.0	U	ppb (v/v)
1,3-Dichlorobenzene	1.0	U	ppb (v/v)
1,4-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichloroethane-d4	99	%	
Toluene-d8	105	%	
Bromofluorobenzene	144	I	%

U = Compound analyzed but not detected.

I = Surrogate recovery outside of limits due to sample matrix interference.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW54-020 92018  
 LAB ID: 133343-0016-DL  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 08 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	2.2	U1	ppb (v/v)
Chloromethane	2.2	U	ppb (v/v)
Vinyl chloride	0.44	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	2.2	U	ppb (v/v)
Bromomethane	2.2	U	ppb (v/v)
Chloroethane	2.2	U	ppb (v/v)
1,1-Dichloroethene	2.3	J	ppb (v/v)
Trichlorofluoromethane	2.2	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	2.2	U	ppb (v/v)
Methylene chloride	0.44	U	ppb (v/v)
1,1-Dichloroethane	0.44	U	ppb (v/v)
cis-1,2-Dichloroethene	6.8	J	ppb (v/v)
Chloroform	2.2	U	ppb (v/v)
1,1,1-Trichloroethane	0.44	U	ppb (v/v)
Carbon tetrachloride	0.44	U	ppb (v/v)
Benzene	1.1	J	ppb (v/v)
1,2-Dichloroethane	0.44	U	ppb (v/v)
Trichloroethene	5.6	J	ppb (v/v)
1,2-Dichloropropane	0.44	U	ppb (v/v)
cis-1,3-Dichloropropene	0.44	J	ppb (v/v)
Toluene	2.5	J	ppb (v/v)
trans-1,3-Dichloropropene	0.44	U	ppb (v/v)
1,1,2-Trichloroethane	0.44	U	ppb (v/v)
Tetrachloroethene	0.85	J	ppb (v/v)
1,2-Dibromoethane (EDB)	2.2	U	ppb (v/v)
Chlorobenzene	2.2	U	ppb (v/v)
Ethylbenzene	2.2	U	ppb (v/v)
m- & p-Xylene(s)	4.4	U	ppb (v/v)
o-Xylene	2.2	U	ppb (v/v)
Styrene	2.2	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	2.2	U	ppb (v/v)
1,3,5-Trimethylbenzene	2.2	U	ppb (v/v)
1,2,4-Trimethylbenzene	2.2	U	ppb (v/v)
1,3-Dichlorobenzene	2.2	U	ppb (v/v)
1,4-Dichlorobenzene	2.2	U	ppb (v/v)
1,2-Dichlorobenzene	2.2	U	ppb (v/v)
1,2-Dichloroethane-d4	107	%	
Toluene-d8	105	%	
Bromofluorobenzene	162	I	%

U = Compound analyzed but not detected.

1 = All reporting limits elevated due to high levels of non-target analytes.

I = Surrogate recovery outside of limits due to sample matrix interference.

COPY



## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW54-030  
 LAB ID: 133343-0017-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 06 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	1.0	U	ppb (v/v)
Chloromethane	1.0	U	ppb (v/v)
Vinyl chloride	0.20	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.0	U	ppb (v/v)
Bromomethane	1.0	U	ppb (v/v)
Chloroethane	1.0	U	ppb (v/v)
1,1-Dichloroethene	2.6	J	ppb (v/v)
Trichlorofluoromethane	1.0	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	ppb (v/v)
Methylene chloride	0.20	U	ppb (v/v)
1,1-Dichloroethane	0.20	U	ppb (v/v)
cis-1,2-Dichloroethene	7.2	J	ppb (v/v)
Chloroform	1.0	U	ppb (v/v)
1,1,1-Trichloroethane	0.20	U	ppb (v/v)
Carbon tetrachloride	0.20	U	ppb (v/v)
Benzene	0.98	J	ppb (v/v)
1,2-Dichloroethane	0.20	U	ppb (v/v)
Trichloroethene	3.8	J	ppb (v/v)
1,2-Dichloropropane	0.35	J	ppb (v/v)
cis-1,3-Dichloropropene	0.20	U J	ppb (v/v)
Toluene	2.4	J	ppb (v/v)
trans-1,3-Dichloropropene	0.20	U	ppb (v/v)
1,1,2-Trichloroethane	0.20	U	ppb (v/v)
Tetrachloroethene	0.49	J	ppb (v/v)
1,2-Dibromoethane (EDB)	1.0	U	ppb (v/v)
Chlorobenzene	1.0	U	ppb (v/v)
Ethylbenzene	1.0	U	ppb (v/v)
m- & p-Xylene (s)	2.0	J	ppb (v/v)
o-Xylene	1.0	U	ppb (v/v)
Styrene	1.0	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	1.0	U	ppb (v/v)
1,3,5-Trimethylbenzene	1.0	U	ppb (v/v)
1,2,4-Trimethylbenzene	1.0	U	ppb (v/v)
1,3-Dichlorobenzene	1.0	U	ppb (v/v)
1,4-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichloroethane-d4	101	%	
Toluene-d8	104	%	
Bromofluorobenzene	152	I	%

U = Compound analyzed but not detected.

I = Surrogate recovery outside of limits due to sample matrix interference.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW54-030  
 LAB ID: 133343-0017-DL  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 08 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	1.7	U	ppb (v/v)
Chloromethane	1.7	U	ppb (v/v)
Vinyl chloride	0.35	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.7	U	ppb (v/v)
Bromomethane	1.7	U	ppb (v/v)
Chloroethane	1.7	U	ppb (v/v)
1,1-Dichloroethene	2.4	J	ppb (v/v)
Trichlorofluoromethane	1.7	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	1.7	U	ppb (v/v)
Methylene chloride	0.35	U	ppb (v/v)
1,1-Dichloroethane	0.35	U	ppb (v/v)
cis-1,2-Dichloroethene	6.4		ppb (v/v)
Chloroform	1.7	U	ppb (v/v)
1,1,1-Trichloroethane	0.35	U	ppb (v/v)
Carbon tetrachloride	0.35	U	ppb (v/v)
Benzene	0.87	J	ppb (v/v)
1,2-Dichloroethane	0.35	U	ppb (v/v)
Trichloroethene	3.8	J	ppb (v/v)
1,2-Dichloropropane	0.35	U	ppb (v/v)
cis-1,3-Dichloropropene	0.35	U	ppb (v/v)
Toluene	2.2	J	ppb (v/v)
trans-1,3-Dichloropropene	0.35	U	ppb (v/v)
1,1,2-Trichloroethane	0.35	U	ppb (v/v)
Tetrachloroethene	0.46	J	ppb (v/v)
1,2-Dibromoethane (EDB)	1.7	U	ppb (v/v)
Chlorobenzene	1.7	U	ppb (v/v)
Ethylbenzene	1.7	U	ppb (v/v)
m- & p-Xylene(s)	3.5	U	ppb (v/v)
o-Xylene	1.7	U	ppb (v/v)
Styrene	1.7	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	1.7	U	ppb (v/v)
1,3,5-Trimethylbenzene	1.7	U	ppb (v/v)
1,2,4-Trimethylbenzene	1.7	U	ppb (v/v)
1,3-Dichlorobenzene	1.7	U	ppb (v/v)
1,4-Dichlorobenzene	1.7	U	ppb (v/v)
1,2-Dichlorobenzene	1.7	U	ppb (v/v)
1,2-Dichloroethane-d4	109	%	
Toluene-d8	108	%	
Bromofluorobenzene	222	I	%

U = Compound analyzed but not detected.

I = Surrogate recovery outside of limits due to sample matrix interference.

**COPY**Environmental  
Services

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
Client ID: VW60-007 0057  
LAB ID: 133343-0001-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	12	U	ppb (v/v)
Chloromethane	12	U	ppb (v/v)
Vinyl chloride	2.4	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	12	U	ppb (v/v)
Bromomethane	12	U	ppb (v/v)
Chloroethane	12	U UJ	ppb (v/v)
1,1-Dichloroethene	2.4	U	ppb (v/v)
Trichlorofluoromethane	12	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	ppb (v/v)
Methylene chloride	12	U	ppb (v/v)
1,1-Dichloroethane	2.4	U	ppb (v/v)
cis-1,2-Dichloroethene	2.4	U	ppb (v/v)
Chloroform	12	U	ppb (v/v)
1,1,1-Trichloroethane	4.5	U	ppb (v/v)
Carbon tetrachloride	2.4	U	ppb (v/v)
Benzene	2.4	U	ppb (v/v)
1,2-Dichloroethane	2.4	U	ppb (v/v)
Trichloroethene	16	U	ppb (v/v)
1,2-Dichloropropane	2.4	U	ppb (v/v)
cis-1,3-Dichloropropene	2.4	U	ppb (v/v)
Toluene	13	U	ppb (v/v)
trans-1,3-Dichloropropene	2.4	U	ppb (v/v)
1,1,2-Trichloroethane	2.4	U	ppb (v/v)
Tetrachloroethene	310	U	ppb (v/v)
1,2-Dibromoethane (EDB)	12	U	ppb (v/v)
Chlorobenzene	12	U	ppb (v/v)
Ethylbenzene	12	U	ppb (v/v)
m- & p-Xylene(s)	24	U UJ	ppb (v/v)
o-Xylene	12	U	ppb (v/v)
Styrene	12	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	12	U	ppb (v/v)
1,3,5-Trimethylbenzene	12	U	ppb (v/v)
1,2,4-Trimethylbenzene	12	U	ppb (v/v)
1,3-Dichlorobenzene	12	U	ppb (v/v)
1,4-Dichlorobenzene	12	U	ppb (v/v)
1,2-Dichlorobenzene	12	U	ppb (v/v)
1,2-Dichloroethane-d4	108	%	
Toluene-d8	102	%	
Bromofluorobenzene	103	%	

U = Compound analyzed but not detected.

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## COPY



## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW60-018 A-098  
 LAB ID: 133343-0002-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	2.1	U	ppb (v/v)
Chloromethane	2.1	U	ppb (v/v)
Vinyl chloride	0.42	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	2.1	U	ppb (v/v)
Bromomethane	2.1	U	ppb (v/v)
Chloroethane	2.1	U	ppb (v/v)
1,1-Dichloroethene	0.42	U	ppb (v/v)
Trichlorofluoromethane	2.1	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	2.1	U	ppb (v/v)
Methylene chloride	3.0		ppb (v/v)
1,1-Dichloroethane	22		ppb (v/v)
cis-1,2-Dichloroethene	0.42	U	ppb (v/v)
Chloroform	2.1	U	ppb (v/v)
1,1,1-Trichloroethane	0.42	U	ppb (v/v)
Carbon tetrachloride	0.42	U	ppb (v/v)
Benzene	0.48		ppb (v/v)
1,2-Dichloroethane	0.42	U	ppb (v/v)
Trichloroethene	4.2		ppb (v/v)
1,2-Dichloropropane	0.42	U	ppb (v/v)
cis-1,3-Dichloropropene	0.42	U	ppb (v/v)
Toluene	14		ppb (v/v)
trans-1,3-Dichloropropene	0.42	U	ppb (v/v)
1,1,2-Trichloroethane	0.42	U	ppb (v/v)
Tetrachloroethene	36		ppb (v/v)
1,2-Dibromoethane (EDB)	2.1	U	ppb (v/v)
Chlorobenzene	2.1	U	ppb (v/v)
Ethylbenzene	2.1	U	ppb (v/v)
m- & p-Xylene(s)	4.2	U	ppb (v/v)
o-Xylene	2.1	U	ppb (v/v)
Styrene	2.1		ppb (v/v)
1,1,2,2-Tetrachloroethane	2.1	U	ppb (v/v)
1,3,5-Trimethylbenzene	2.1	U	ppb (v/v)
1,2,4-Trimethylbenzene	2.1	U	ppb (v/v)
1,3-Dichlorobenzene	2.1	U	ppb (v/v)
1,4-Dichlorobenzene	2.1	U	ppb (v/v)
1,2-Dichlorobenzene	2.1	U	ppb (v/v)
1,2-Dichloroethane-d4	99	%	
Toluene-d8	103	%	
Bromofluorobenzene	100	%	

U = Compound analyzed but not detected.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW60-029 0102  
 LAB ID: 133343-0003-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 29 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	1.1		ppb (v/v)
Chloromethane	1.0	U	ppb (v/v)
Vinyl chloride	0.20	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.0	U	ppb (v/v)
Bromomethane	1.0	U	ppb (v/v)
Chloroethane	1.0	U	ppb (v/v)
1,1-Dichloroethene	0.20	U	ppb (v/v)
Trichlorofluoromethane	1.0	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	ppb (v/v)
Methylene chloride	1.1		ppb (v/v)
1,1-Dichloroethane	5.0		ppb (v/v)
cis-1,2-Dichloroethene	0.20	U	ppb (v/v)
Chloroform	1.0	U	ppb (v/v)
1,1,1-Trichloroethane	0.36		ppb (v/v)
Carbon tetrachloride	0.20	U	ppb (v/v)
Benzene	0.84		ppb (v/v)
1,2-Dichloroethane	0.20	U	ppb (v/v)
Trichloroethene	1.0		ppb (v/v)
1,2-Dichloropropane	0.20	U	ppb (v/v)
cis-1,3-Dichloropropene	0.20	U	ppb (v/v)
Toluene	6.7		ppb (v/v)
trans-1,3-Dichloropropene	0.20	U	ppb (v/v)
1,1,2-Trichloroethane	0.20	U	ppb (v/v)
Tetrachloroethene	22		ppb (v/v)
1,2-Dibromoethane (EDB)	1.0	U	ppb (v/v)
Chlorobenzene	1.0	U	ppb (v/v)
Ethylbenzene	1.0	U	ppb (v/v)
m- & p-Xylene (s)	2.6	J	ppb (v/v)
o-Xylene	1.0		ppb (v/v)
Styrene	1.0	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	1.0	U	ppb (v/v)
1,3,5-Trimethylbenzene	1.0	U	ppb (v/v)
1,2,4-Trimethylbenzene	1.0	U	ppb (v/v)
1,3-Dichlorobenzene	1.0	U	ppb (v/v)
1,4-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichloroethane-d4	114	%	
Toluene-d8	105	%	
Bromofluorobenzene	104	%	

U = Compound analyzed but not detected.

COPY



## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW61-008 12465  
 LAB ID: 133343-0011-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	2.1	U	ppb (v/v)
Chloromethane	2.1	U	ppb (v/v)
Vinyl chloride	0.42	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	2.1	U	ppb (v/v)
Bromomethane	2.1	U	ppb (v/v)
Chloroethane	2.1	U U	ppb (v/v)
1,1-Dichloroethene	0.42	U	ppb (v/v)
Trichlorofluoromethane	2.1	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	2.1	U	ppb (v/v)
Methylene chloride	0.62	U	ppb (v/v)
1,1-Dichloroethane	0.42	U	ppb (v/v)
cis-1,2-Dichloroethene	0.42	U	ppb (v/v)
Chloroform	2.1	U	ppb (v/v)
1,1,1-Trichloroethane	2.5	U	ppb (v/v)
Carbon tetrachloride	0.42	U	ppb (v/v)
Benzene	2.1	U	ppb (v/v)
1,2-Dichloroethane	0.42	U	ppb (v/v)
Trichloroethene	2.7	U	ppb (v/v)
1,2-Dichloropropane	0.42	U	ppb (v/v)
cis-1,3-Dichloropropene	0.42	U	ppb (v/v)
Toluene	3.3	U	ppb (v/v)
trans-1,3-Dichloropropene	0.42	U	ppb (v/v)
1,1,2-Trichloroethane	0.42	U	ppb (v/v)
Tetrachloroethene	40	U	ppb (v/v)
1,2-Dibromoethane (EDB)	2.1	U	ppb (v/v)
Chlorobenzene	2.1	U	ppb (v/v)
Ethylbenzene	2.1	U	ppb (v/v)
m- & p-Xylene(s)	4.2	U U	ppb (v/v)
o-Xylene	2.1	U	ppb (v/v)
Styrene	2.1	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	2.1	U	ppb (v/v)
1,3,5-Trimethylbenzene	2.1	U	ppb (v/v)
1,2,4-Trimethylbenzene	2.1	U	ppb (v/v)
1,3-Dichlorobenzene	2.1	U	ppb (v/v)
1,4-Dichlorobenzene	2.1	U	ppb (v/v)
1,2-Dichlorobenzene	2.1	U	ppb (v/v)
1,2-Dichloroethane-d4	109	%	
Toluene-d8	102	%	
Bromofluorobenzene	100	%	

U = Compound analyzed but not detected.

**COPY****Quanterra**Environmental  
Services

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW61-019 A-196  
 LAB ID: 133343-0012-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 06 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	22	U	ppb (v/v)
Chloromethane	22	U	ppb (v/v)
Vinyl chloride	400	E	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	22	U	ppb (v/v)
Bromomethane	22	U	ppb (v/v)
Chloroethane	22	U	ppb (v/v)
1,1-Dichloroethene	4.4	U	ppb (v/v)
Trichlorofluoromethane	22	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	22	U	ppb (v/v)
Methylene chloride	4.4	U	ppb (v/v)
1,1-Dichloroethane	78		ppb (v/v)
cis-1,2-Dichloroethene	8.8		ppb (v/v)
Chloroform	22	U	ppb (v/v)
1,1,1-Trichloroethane	4.4	U	ppb (v/v)
Carbon tetrachloride	4.4	U	ppb (v/v)
Benzene	8.7		ppb (v/v)
1,2-Dichloroethane	4.4	U	ppb (v/v)
Trichloroethene	4.4	U	ppb (v/v)
1,2-Dichloropropane	230		ppb (v/v)
cis-1,3-Dichloropropene	4.4	U	ppb (v/v)
Toluene	22	U	ppb (v/v)
trans-1,3-Dichloropropene	4.4	U	ppb (v/v)
1,1,2-Trichloroethane	4.4	U	ppb (v/v)
Tetrachloroethene	4.4	U	ppb (v/v)
1,2-Dibromoethane (EDB)	22	U	ppb (v/v)
Chlorobenzene	22	U	ppb (v/v)
Ethylbenzene	22	U	ppb (v/v)
m- & p-Xylene(s)	44	U	ppb (v/v)
o-Xylene	22	U	ppb (v/v)
Styrene	22	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	22	U	ppb (v/v)
1,3,5-Trimethylbenzene	22	U	ppb (v/v)
1,2,4-Trimethylbenzene	22	U	ppb (v/v)
1,3-Dichlorobenzene	22	U	ppb (v/v)
1,4-Dichlorobenzene	22	U	ppb (v/v)
1,2-Dichlorobenzene	22	U	ppb (v/v)
1,2-Dichloroethane-d4	114	%	
Toluene-d8	104	%	
Bromofluorobenzene	100	%	

U = Compound analyzed but not detected.

E = Concentration exceeds calibration range. Value is estimated.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW61-019 A-196  
 LAB ID: 133343-0012-DL  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 08 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	53	U	ppb (v/v)
Chloromethane	53	U	ppb (v/v)
Vinyl chloride	340		ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	53	U	ppb (v/v)
Bromomethane	53	U	ppb (v/v)
Chloroethane	53	U	ppb (v/v)
1,1-Dichloroethene	11	U	ppb (v/v)
Trichlorofluoromethane	53	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	53	U	ppb (v/v)
Methylene chloride	11	U	ppb (v/v)
1,1-Dichloroethane	60		ppb (v/v)
cis-1,2-Dichloroethene	11	U	ppb (v/v)
Chloroform	53	U	ppb (v/v)
1,1,1-Trichloroethane	11	U	ppb (v/v)
Carbon tetrachloride	11	U	ppb (v/v)
Benzene	11	U	ppb (v/v)
1,2-Dichloroethane	11	U	ppb (v/v)
Trichloroethene	11	U	ppb (v/v)
1,2-Dichloropropane	160		ppb (v/v)
cis-1,3-Dichloropropene	11	U	ppb (v/v)
Toluene	53	U	ppb (v/v)
trans-1,3-Dichloropropene	11	U	ppb (v/v)
1,1,2-Trichloroethane	11	U	ppb (v/v)
Tetrachloroethene	11	U	ppb (v/v)
1,2-Dibromoethane (EDB)	53	U	ppb (v/v)
Chlorobenzene	53	U	ppb (v/v)
Ethylbenzene	53	U	ppb (v/v)
m- & p-Xylene(s)	110	U	ppb (v/v)
o-Xylene	53	U	ppb (v/v)
Styrene	53	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	53	U	ppb (v/v)
1,3,5-Trimethylbenzene	53	U	ppb (v/v)
1,2,4-Trimethylbenzene	53	U	ppb (v/v)
1,3-Dichlorobenzene	53	U	ppb (v/v)
1,4-Dichlorobenzene	53	U	ppb (v/v)
1,2-Dichlorobenzene	53	U	ppb (v/v)
1,2-Dichloroethane-d4	107	%	
Toluene-d8	109	%	
Bromofluorobenzene	109	%	

U = Compound analyzed but not detected.

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## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW61-030 9804BB  
 LAB ID: 133343-0013-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 08 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	44	U1	ppb (v/v)
Chloromethane	44	U	ppb (v/v)
Vinyl chloride	85		ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	44	U	ppb (v/v)
Bromomethane	44	U	ppb (v/v)
Chloroethane	44	U	ppb (v/v)
1,1-Dichloroethene	8.8	U	ppb (v/v)
Trichlorofluoromethane	44	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	44	U	ppb (v/v)
Methylene chloride	8.8	U	ppb (v/v)
1,1-Dichloroethane	87		ppb (v/v)
cis-1,2-Dichloroethene	23		ppb (v/v)
Chloroform	44	U	ppb (v/v)
1,1,1-Trichloroethane	8.8	U	ppb (v/v)
Carbon tetrachloride	8.8	U	ppb (v/v)
Benzene	8.8	U	ppb (v/v)
1,2-Dichloroethane	8.8	U	ppb (v/v)
Trichloroethene	8.8	U	ppb (v/v)
1,2-Dichloropropane	210	F	ppb (v/v)
cis-1,3-Dichloropropene	8.8	U	ppb (v/v)
Toluene	44	U	ppb (v/v)
trans-1,3-Dichloropropene	8.8	U	ppb (v/v)
1,1,2-Trichloroethane	8.8	U	ppb (v/v)
Tetrachloroethene	8.8	U	ppb (v/v)
1,2-Dibromoethane (EDB)	44	U	ppb (v/v)
Chlorobenzene	44	U	ppb (v/v)
Ethylbenzene	44	U	ppb (v/v)
m- & p-Xylene(s)	88	U	ppb (v/v)
o-Xylene	44	U	ppb (v/v)
Styrene	44	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	44	U	ppb (v/v)
1,3,5-Trimethylbenzene	44	U	ppb (v/v)
1,2,4-Trimethylbenzene	44	U	ppb (v/v)
1,3-Dichlorobenzene	44	U	ppb (v/v)
1,4-Dichlorobenzene	44	U	ppb (v/v)
1,2-Dichlorobenzene	44	U	ppb (v/v)
1,2-Dichloroethane-d4	112	%	
Toluene-d8	111	%	
Bromofluorobenzene	109	%	

U = Compound analyzed but not detected.

1 = All reporting limits elevated due to high levels of non-target analytes.

F = Reported value estimated due to an interference.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW61-330 9535BB  
 LAB ID: 133343-0014-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 08 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	36	U1	ppb (v/v)
Chloromethane	36	U	ppb (v/v)
Vinyl chloride	100		ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	36	U	ppb (v/v)
Bromomethane	36	U	ppb (v/v)
Chloroethane	36	U	ppb (v/v)
1,1-Dichloroethene	7.2	U	ppb (v/v)
Trichlorofluoromethane	36	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	36	U	ppb (v/v)
Methylene chloride	7.2	U	ppb (v/v)
1,1-Dichloroethane	97		ppb (v/v)
cis-1,2-Dichloroethene	28		ppb (v/v)
Chloroform	36	U	ppb (v/v)
1,1,1-Trichloroethane	7.2	U	ppb (v/v)
Carbon tetrachloride	7.2	U	ppb (v/v)
Benzene	7.2	U	ppb (v/v)
1,2-Dichloroethane	7.2	U	ppb (v/v)
Trichloroethene	7.2	U	ppb (v/v)
1,2-Dichloropropane	250	F	ppb (v/v)
cis-1,3-Dichloropropene	7.2	U	ppb (v/v)
Toluene	48		ppb (v/v)
trans-1,3-Dichloropropene	7.2	U	ppb (v/v)
1,1,2-Trichloroethane	7.2	U	ppb (v/v)
Tetrachloroethene	7.2	U	ppb (v/v)
1,2-Dibromoethane (EDB)	36	U	ppb (v/v)
Chlorobenzene	36	U	ppb (v/v)
Ethylbenzene	36	U	ppb (v/v)
m- & p-Xylene(s)	72	U	ppb (v/v)
o-Xylene	36	U	ppb (v/v)
Styrene	36	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	36	U	ppb (v/v)
1,3,5-Trimethylbenzene	36	U	ppb (v/v)
1,2,4-Trimethylbenzene	36	U	ppb (v/v)
1,3-Dichlorobenzene	36	U	ppb (v/v)
1,4-Dichlorobenzene	36	U	ppb (v/v)
1,2-Dichlorobenzene	36	U	ppb (v/v)
1,2-Dichloroethane-d4	115	%	
Toluene-d8	107	%	
Bromofluorobenzene	116	%	

U = Compound analyzed but not detected.

1 = All reporting limits elevated due to high levels of non-target analytes.

F = Reported value estimated due to an interference.

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Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW62-007 04720  
 LAB ID: 133343-0004-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	17	U1	ppb (v/v)
Chloromethane	17	U	ppb (v/v)
Vinyl chloride	3.5	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	17	U	ppb (v/v)
Bromomethane	17	U	ppb (v/v)
Chloroethane	17	U UJ	ppb (v/v)
1,1-Dichloroethene	3.5	U	ppb (v/v)
Trichlorofluoromethane	17	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	17	U	ppb (v/v)
Methylene chloride	3.5	U	ppb (v/v)
1,1-Dichloroethane	3.5	U	ppb (v/v)
cis-1,2-Dichloroethene	3.5	U	ppb (v/v)
Chloroform	17	U	ppb (v/v)
1,1,1-Trichloroethane	3.5	U	ppb (v/v)
Carbon tetrachloride	3.5	U	ppb (v/v)
Benzene	3.5	U	ppb (v/v)
1,2-Dichloroethane	3.5	U	ppb (v/v)
Trichloroethene	3.5	U	ppb (v/v)
1,2-Dichloropropane	3.5	U	ppb (v/v)
cis-1,3-Dichloropropene	3.5	U	ppb (v/v)
Toluene	17	U	ppb (v/v)
trans-1,3-Dichloropropene	3.5	U	ppb (v/v)
1,1,2-Trichloroethane	3.5	U	ppb (v/v)
Tetrachloroethene	3.5	U	ppb (v/v)
1,2-Dibromoethane (EDB)	17	U	ppb (v/v)
Chlorobenzene	17	U	ppb (v/v)
Ethylbenzene	17	U	ppb (v/v)
m- & p-Xylene(s)	35	U UJ	ppb (v/v)
o-Xylene	17	U	ppb (v/v)
Styrene	17	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	17	U	ppb (v/v)
1,3,5-Trimethylbenzene	17	U	ppb (v/v)
1,2,4-Trimethylbenzene	17	U	ppb (v/v)
1,3-Dichlorobenzene	17	U	ppb (v/v)
1,4-Dichlorobenzene	17	U	ppb (v/v)
1,2-Dichlorobenzene	17	U	ppb (v/v)
1,2-Dichloroethane-d4	105	%	
Toluene-d8	104	%	
Bromofluorobenzene	106	%	

U = Compound analyzed but not detected.

1 = All reporting limits elevated due to high levels of non-target analytes.

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## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW62-018 11372  
 LAB ID: 133343-0005-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 06 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	1.0	U	ppb (v/v)
Chloromethane	1.0	U	ppb (v/v)
Vinyl chloride	1.4	I	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.0	U	ppb (v/v)
Bromomethane	1.0	U	ppb (v/v)
Chloroethane	1.0	U	ppb (v/v)
1,1-Dichloroethene	0.20	U	ppb (v/v)
Trichlorofluoromethane	1.0	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	ppb (v/v)
Methylene chloride	0.20	U	ppb (v/v)
1,1-Dichloroethane	0.21	J	ppb (v/v)
cis-1,2-Dichloroethene	0.48	J	ppb (v/v)
Chloroform	1.0	U	ppb (v/v)
1,1,1-Trichloroethane	0.20	U	ppb (v/v)
Carbon tetrachloride	0.20	U	ppb (v/v)
Benzene	0.74	I	ppb (v/v)
1,2-Dichloroethane	0.20	U	ppb (v/v)
Trichloroethene	0.60	I	ppb (v/v)
1,2-Dichloropropane	0.68	F	ppb (v/v)
cis-1,3-Dichloropropene	0.20	U	ppb (v/v)
Toluene	2.4	J	ppb (v/v)
trans-1,3-Dichloropropene	0.20	U	ppb (v/v)
1,1,2-Trichloroethane	0.20	U	ppb (v/v)
Tetrachloroethene	0.23	J	ppb (v/v)
1,2-Dibromoethane (EDB)	1.0	U	ppb (v/v)
Chlorobenzene	4.5	J	ppb (v/v)
Ethylbenzene	1.0	U	ppb (v/v)
m- & p-Xylene(s)	2.0	U	ppb (v/v)
o-Xylene	1.0	U	ppb (v/v)
Styrene	1.0	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	1.0	U	ppb (v/v)
1,3,5-Trimethylbenzene	1.0	U	ppb (v/v)
1,2,4-Trimethylbenzene	1.0	U	ppb (v/v)
1,3-Dichlorobenzene	1.0	U	ppb (v/v)
1,4-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichlorobenzene	1.6	I	ppb (v/v)
1,2-Dichloroethane-d4	109	%	
Toluene-d8	103	%	
Bromofluorobenzene	237	I	%

U = Compound analyzed but not detected.

F = Reported value estimated due to an interference.

I = Surrogate recovery outside of limits due to sample matrix interference.

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## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW62-029 92072  
 LAB ID: 133343-0006-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 06 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	1.0	U	ppb (v/v)
Chloromethane	1.0	U	ppb (v/v)
Vinyl chloride	12	J	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.0	U	ppb (v/v)
Bromomethane	1.0	U	ppb (v/v)
Chloroethane	1.0	U	ppb (v/v)
1,1-Dichloroethene	0.49	J	ppb (v/v)
Trichlorofluoromethane	1.0	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	ppb (v/v)
Methylene chloride	0.20	U	ppb (v/v)
1,1-Dichloroethane	0.20	U	ppb (v/v)
cis-1,2-Dichloroethene	1.6	J	ppb (v/v)
Chloroform	1.0	U	ppb (v/v)
1,1,1-Trichloroethane	0.20	U	ppb (v/v)
Carbon tetrachloride	0.20	U	ppb (v/v)
Benzene	0.82	J	ppb (v/v)
1,2-Dichloroethane	0.20	U	ppb (v/v)
Trichloroethene	1.7	J	ppb (v/v)
1,2-Dichloropropane	0.20	U	ppb (v/v)
cis-1,3-Dichloropropene	0.20	U	ppb (v/v)
Toluene	2.9	J	ppb (v/v)
trans-1,3-Dichloropropene	0.20	U	ppb (v/v)
1,1,2-Trichloroethane	0.20	U	ppb (v/v)
Tetrachloroethene	8.5	J	ppb (v/v)
1,2-Dibromoethane (EDB)	1.0	U	ppb (v/v)
Chlorobenzene	1.0	U	ppb (v/v)
Ethylbenzene	1.8	J	ppb (v/v)
m- & p-Xylene(s)	3.1	J	ppb (v/v)
o-Xylene	2.2	J	ppb (v/v)
Styrene	1.0	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	1.0	U	ppb (v/v)
1,3,5-Trimethylbenzene	1.0	U	ppb (v/v)
1,2,4-Trimethylbenzene	2.1	J	ppb (v/v)
1,3-Dichlorobenzene	1.0	U	ppb (v/v)
1,4-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichloroethane-d4	101	%	
Toluene-d8	103	%	
Bromofluorobenzene	203	I	%

U = Compound analyzed but not detected.

I = Surrogate recovery outside of limits due to sample matrix interference.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW62-029 92072  
 LAB ID: 133343-0006-DL  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 08 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	2.1	U	ppb (v/v)
Chloromethane	2.1	U	ppb (v/v)
Vinyl chloride	8.4	J	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	2.1	U	ppb (v/v)
Bromomethane	2.1	U	ppb (v/v)
Chloroethane	2.1	U	ppb (v/v)
1,1-Dichloroethene	0.42	U	ppb (v/v)
Trichlorofluoromethane	2.1	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	2.1	U	ppb (v/v)
Methylene chloride	0.46	J	ppb (v/v)
1,1-Dichloroethane	0.42	U	ppb (v/v)
cis-1,2-Dichloroethene	1.4	J	ppb (v/v)
Chloroform	2.1	U	ppb (v/v)
1,1,1-Trichloroethane	0.42	U	ppb (v/v)
Carbon tetrachloride	0.42	U	ppb (v/v)
Benzene	0.72	J	ppb (v/v)
1,2-Dichloroethane	0.42	U	ppb (v/v)
Trichloroethene	1.6	J	ppb (v/v)
1,2-Dichloropropane	0.42	U	ppb (v/v)
cis-1,3-Dichloropropene	0.42	U	ppb (v/v)
Toluene	2.6	J	ppb (v/v)
trans-1,3-Dichloropropene	0.42	U	ppb (v/v)
1,1,2-Trichloroethane	0.42	U	ppb (v/v)
Tetrachloroethene	7.4	J	ppb (v/v)
1,2-Dibromoethane (EDB)	2.1	U	ppb (v/v)
Chlorobenzene	2.1	U	ppb (v/v)
Ethylbenzene	2.1	U	ppb (v/v)
m- & p-Xylene(s)	4.2	U	ppb (v/v)
o-Xylene	2.1	U	ppb (v/v)
Styrene	2.1	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	2.1	U	ppb (v/v)
1,3,5-Trimethylbenzene	2.1	U	ppb (v/v)
1,2,4-Trimethylbenzene	2.1	U	ppb (v/v)
1,3-Dichlorobenzene	2.1	U	ppb (v/v)
1,4-Dichlorobenzene	2.1	U	ppb (v/v)
1,2-Dichlorobenzene	2.1	U	ppb (v/v)
1,2-Dichloroethane-d4	111	%	
Toluene-d8	105	%	
Bromofluorobenzene	362	I	%

U = Compound analyzed but not detected.

I = Surrogate recovery outside of limits due to sample matrix interference.

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## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW63-008 12160  
 LAB ID: 133343-0007-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	1.0	U	ppb (v/v)
Chloromethane	1.0	U	ppb (v/v)
Vinyl chloride	0.20	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.0	U	ppb (v/v)
Bromomethane	1.0	U	ppb (v/v)
Chloroethane	1.0	U	ppb (v/v)
1,1-Dichloroethene	0.20	U	ppb (v/v)
Trichlorofluoromethane	1.0	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	ppb (v/v)
Methylene chloride	0.56	U	ppb (v/v)
1,1-Dichloroethane	0.20	U	ppb (v/v)
cis-1,2-Dichloroethene	0.20	U	ppb (v/v)
Chloroform	1.0	U	ppb (v/v)
1,1,1-Trichloroethane	1.2	U	ppb (v/v)
Carbon tetrachloride	0.20	U	ppb (v/v)
Benzene	0.85	U	ppb (v/v)
1,2-Dichloroethane	0.20	U	ppb (v/v)
Trichloroethene	0.46	U	ppb (v/v)
1,2-Dichloropropane	0.20	U	ppb (v/v)
cis-1,3-Dichloropropene	0.20	U	ppb (v/v)
Toluene	3.4	U	ppb (v/v)
trans-1,3-Dichloropropene	0.20	U	ppb (v/v)
1,1,2-Trichloroethane	0.20	U	ppb (v/v)
Tetrachloroethene	0.57	U	ppb (v/v)
1,2-Dibromoethane (EDB)	1.0	U	ppb (v/v)
Chlorobenzene	1.0	U	ppb (v/v)
Ethylbenzene	1.0	U	ppb (v/v)
m- & p-Xylene (s)	2.0	U	ppb (v/v)
o-Xylene	1.0	U	ppb (v/v)
Styrene	1.0	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	1.0	U	ppb (v/v)
1,3,5-Trimethylbenzene	1.0	U	ppb (v/v)
1,2,4-Trimethylbenzene	1.0	U	ppb (v/v)
1,3-Dichlorobenzene	1.0	U	ppb (v/v)
1,4-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichloroethane-d4	104	%	
Toluene-d8	101	%	
Bromofluorobenzene	98	%	

U = Compound analyzed but not detected.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: VW63-018 93073  
 LAB ID: 133343-0008-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 06 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	4.2	U	ppb (v/v)
Chloromethane	4.2	U	ppb (v/v)
Vinyl chloride	0.84	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	4.2	U	ppb (v/v)
Bromomethane	4.2	U	ppb (v/v)
Chloroethane	4.2	U	ppb (v/v)
1,1-Dichloroethene	0.84	U	ppb (v/v)
Trichlorofluoromethane	4.2	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	4.2	U	ppb (v/v)
Methylene chloride	0.84	U	ppb (v/v)
1,1-Dichloroethane	0.84	U	ppb (v/v)
cis-1,2-Dichloroethene	0.84	U	ppb (v/v)
Chloroform	4.2	U	ppb (v/v)
1,1,1-Trichloroethane	0.84	U	ppb (v/v)
Carbon tetrachloride	0.84	U	ppb (v/v)
Benzene	0.84	U	ppb (v/v)
1,2-Dichloroethane	0.84	U	ppb (v/v)
Trichloroethene	7.5	U	ppb (v/v)
1,2-Dichloropropane	0.84	U	ppb (v/v)
cis-1,3-Dichloropropene	0.84	U	ppb (v/v)
Toluene	4.2	U	ppb (v/v)
trans-1,3-Dichloropropene	0.84	U	ppb (v/v)
1,1,2-Trichloroethane	0.84	U	ppb (v/v)
Tetrachloroethene	120	U	ppb (v/v)
1,2-Dibromoethane (EDB)	4.2	U	ppb (v/v)
Chlorobenzene	4.2	U	ppb (v/v)
Ethylbenzene	4.2	U	ppb (v/v)
m- & p-Xylene(s)	8.4	U	ppb (v/v)
o-Xylene	4.2	U	ppb (v/v)
Styrene	4.2	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	4.2	U	ppb (v/v)
1,3,5-Trimethylbenzene	4.2	U	ppb (v/v)
1,2,4-Trimethylbenzene	4.2	U	ppb (v/v)
1,3-Dichlorobenzene	4.2	U	ppb (v/v)
1,4-Dichlorobenzene	4.2	U	ppb (v/v)
1,2-Dichlorobenzene	4.2	U	ppb (v/v)
1,2-Dichloroethane-d4	103	U	ppb (v/v)
Toluene-d8	103	U	ppb (v/v)
Bromofluorobenzene	96	U	ppb (v/v)

U = Compound analyzed but not detected.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Environmental  
Services

Client Name: USEPA - Region IX  
 Client ID: VW63-028 9248B  
 LAB ID: 133343-0010-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	12	U	ppb (v/v)
Chloromethane	12	U	ppb (v/v)
Vinyl chloride	2.4	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	12	U	ppb (v/v)
Bromomethane	12	U	ppb (v/v)
Chloroethane	12	U	ppb (v/v)
1,1-Dichloroethene	2.4	U	ppb (v/v)
Trichlorofluoromethane	12	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	12	U	ppb (v/v)
Methylene chloride	2.4	U	ppb (v/v)
1,1-Dichloroethane	2.4	U	ppb (v/v)
cis-1,2-Dichloroethene	2.4	U	ppb (v/v)
Chloroform	12	U	ppb (v/v)
1,1,1-Trichloroethane	2.4	U	ppb (v/v)
Carbon tetrachloride	2.4	U	ppb (v/v)
Benzene	2.4	U	ppb (v/v)
1,2-Dichloroethane	2.4	U	ppb (v/v)
Trichloroethene	14		ppb (v/v)
1,2-Dichloropropane	2.4	U	ppb (v/v)
cis-1,3-Dichloropropene	2.4	U	ppb (v/v)
Toluene	12	U	ppb (v/v)
trans-1,3-Dichloropropene	2.4	U	ppb (v/v)
1,1,2-Trichloroethane	2.4	U	ppb (v/v)
Tetrachloroethene	200		ppb (v/v)
1,2-Dibromoethane (EDB)	12	U	ppb (v/v)
Chlorobenzene	12	U	ppb (v/v)
Ethylbenzene	12	U	ppb (v/v)
m- & p-Xylene(s)	24	U	ppb (v/v)
o-Xylene	12	U	ppb (v/v)
Styrene	12	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	12	U	ppb (v/v)
1,3,5-Trimethylbenzene	12	U	ppb (v/v)
1,2,4-Trimethylbenzene	12	U	ppb (v/v)
1,3-Dichlorobenzene	12	U	ppb (v/v)
1,4-Dichlorobenzene	12	U	ppb (v/v)
1,2-Dichlorobenzene	12	U	ppb (v/v)
1,2-Dichloroethane-d4	105	‡	
Toluene-d8	101	‡	
Bromofluorobenzene	98	‡	

U = Compound analyzed but not detected.

# COPY



Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW60-007 0057  
LAB ID: 133343-0001-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	17	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Environmental  
ServicesModified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW60-018 A-098  
LAB ID: 133343-0002-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	17	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

# COPY



Environmental  
Services

Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW60-029 0102  
LAB ID: 133343-0003-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 29 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	17	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**

Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Environmental  
Services

Client Name: USEPA - Region IX  
Client ID: VW62-007 04720  
LAB ID: 133343-0004-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	61000		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	190		ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW62-018 11372  
LAB ID: 133343-0005-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	25000		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Environmental  
ServicesModified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW62-029 92072  
LAB ID: 133343-0006-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	31000		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

# COPY



Environmental  
Services

Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW63-008 12160  
LAB ID: 133343-0007-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	17	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Environmental  
ServicesModified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW63-018 93073  
LAB ID: 133343-0008-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	17	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Environmental  
ServicesModified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: B2 02702  
LAB ID: 133343-0009-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	10	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	100	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Environmental  
ServicesModified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW63-028 9248B  
LAB ID: 133343-0010-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	17	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**



Environmental  
Services

Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW61-008 12465  
LAB ID: 133343-0011-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	17	U	ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**

## Volatile Organics by GCMS - EPA TO15

Client Name: USEPA - Region IX  
 Client ID: B2 02702  
 LAB ID: 133343-0009-SA  
 Matrix: AIR  
 Authorized: 30 JUL 98

Sampled: 30 JUL 98  
 Prepared: N/A

Received: 30 JUL 98  
 Analyzed: 06 AUG 98

Parameter	Result	Qualifier	Units
Dichlorodifluoromethane	1.0	U	ppb (v/v)
Chloromethane	1.0	U	ppb (v/v)
Vinyl chloride	0.20	U	ppb (v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.0	U	ppb (v/v)
Bromomethane	1.0	U	ppb (v/v)
Chloroethane	1.0	U	ppb (v/v)
1,1-Dichloroethene	0.20	U	ppb (v/v)
Trichlorofluoromethane	1.0	U	ppb (v/v)
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	ppb (v/v)
Methylene chloride	0.20	U	ppb (v/v)
1,1-Dichloroethane	0.20	U	ppb (v/v)
cis-1,2-Dichloroethene	0.20	U	ppb (v/v)
Chloroform	1.0	U	ppb (v/v)
1,1,1-Trichloroethane	0.20	U	ppb (v/v)
Carbon tetrachloride	0.20	U	ppb (v/v)
Benzene	0.20	U	ppb (v/v)
1,2-Dichloroethane	0.20	U	ppb (v/v)
Trichloroethene	0.20	U	ppb (v/v)
1,2-Dichloropropane	0.20	U	ppb (v/v)
cis-1,3-Dichloropropene	0.20	U	ppb (v/v)
Toluene	1.0	U	ppb (v/v)
trans-1,3-Dichloropropene	0.20	U	ppb (v/v)
1,1,2-Trichloroethane	0.20	U	ppb (v/v)
Tetrachloroethene	0.20	U	ppb (v/v)
1,2-Dibromoethane (EDB)	1.0	U	ppb (v/v)
Chlorobenzene	1.0	U	ppb (v/v)
Ethylbenzene	1.0	U	ppb (v/v)
m- & p-Xylene(s)	2.0	U	ppb (v/v)
o-Xylene	1.0	U	ppb (v/v)
Styrene	1.0	U	ppb (v/v)
1,1,2,2-Tetrachloroethane	1.0	U	ppb (v/v)
1,3,5-Trimethylbenzene	1.0	U	ppb (v/v)
1,2,4-Trimethylbenzene	1.0	U	ppb (v/v)
1,3-Dichlorobenzene	1.0	U	ppb (v/v)
1,4-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichlorobenzene	1.0	U	ppb (v/v)
1,2-Dichloroethane-d4	107	%	
Toluene-d8	97	%	
Bromofluorobenzene	84	%	

U = Compound analyzed but not detected.

# COPY



Environmental  
Services

Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW61-019 A-196  
LAB ID: 133343-0012-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	3900		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY****Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis**Environmental  
Services

Client Name: USEPA - Region IX  
Client ID: VW61-030 9804BB  
LAB ID: 133343-0013-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	1200		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	600		ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID AnalysisEnvironmental  
Services

Client Name: USEPA - Region IX  
Client ID: VW61-330 9535BB  
LAB ID: 133343-0014-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	1300		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	710		ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Environmental  
Services**Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis**

Client Name: USEPA - Region IX  
Client ID: VW54-012 9724B  
LAB ID: 133343-0015-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	2400		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID Analysis

Client Name: USEPA - Region IX  
Client ID: VW54-020 92018  
LAB ID: 133343-0016-SA  
Matrix: AIR  
Authorized: 30 JUL 98

Sampled: 30 JUL 98  
Prepared: N/A

Received: 30 JUL 98  
Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	2400		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	180	U	ppm (v/v)

U = Compound analyzed but not detected.

**COPY**Modified SCAQMD Method 25.1 - Non-Condensable  
TCA/FID AnalysisEnvironmental  
Services

Client Name: USEPA - Region IX

Client ID: VW54-030

LAB ID: 133343-0017-SA

Matrix: AIR

Authorized: 30 JUL 98

Sampled: 30 JUL 98

Prepared: N/A

Received: 30 JUL 98

Analyzed: 05 AUG 98

Parameter	Result	Qualifier	Units
Methane	2300		ppm (v/v)
Total Non-Methane			
Hydrocarbons as Methane	170	U	ppm (v/v)

U = Compound analyzed but not detected.